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Studies on the Terrestrial Isopod Crustaceans in Japan*
III. Taxonomy of the Families Scyphacidae (continued), Marinoniscidae, Halophilosciidae, Philosciidae and Oniscidae

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日本産陸棲等脚目甲殻類の研究
III. ウミベワラジムシ科（続き），ミギワワラジムシ科，ウシオワラジムシ科，ヒメワラジムシ科およびホンワラジムシ科の分類

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第III報では，海浜域に生息するウミベワラジムシ科に属するウミベワラジムシ属の1種およびウシオワラジムシ科の4種，南西日本の森林にごく普通に見られるヒメワラジムシ科の19種，および日本では特殊な環境のみで見られるホンワラジムシ科の1種についての種名を決定し，記載を行った。また種名を決定できないホンワラジムシ科の一種についても記載を行った。

なお，熊本県富岡の潮間帯から採集された小型の1種は，第2触角の鞭が7節あることなどから従来知られている全ての科に該当せず，新しくミギワワラジムシ科 Marinoniscidae を設けた。

また，ヒメワラジムシ科のうちモリワラジムシ属のものは南西日本の森林土壌中にきわめて普通に生息し，しばしば生態学的にも重視されているグループである。残りのヒメワラジムシ科に属する種類とホンワラジムシ科に属する種類もその生息場所や生態の点から生物学的に大いに興味あるグループである。今回観察した標本のうち，海浜産のものはほとんど著者自身の採集によるものであるが，森林産のものの多くは日本各地の土壌動物研究者の採集に負うところが大きい。

本報告で扱った28種は以下のとおりで，23新種を含む。

ウミベワラジムシ科（続き）	Scyphacidae DANA, 1853
ウミベワラジムシ属（新称）	*Scyphax* DANA, 1853
ニッポンウミベワラジムシ（新称）	*Scyphax nipponensis* n. sp.
ミギワワラジムシ科（新称）	Marinoniscidae, new family
ミギワワラジムシ属（新称）	*Marinoniscus,* new genus
トミオカミギワワラジムシ（新称）	*Marinoniscus tomiokaensis* n. sp.
ミギワワラジムシ属の一種	*Marinoniscus* sp.
ウシオワラジムシ科（新称）	Halophilosciidae VERHOEFF, 1908
ヒイロワラジムシ属（新称）	*Littorophiloscia* HATCH, 1949
ニッポンヒイロワラジムシ（新称）	*Littorophiloscia nipponensis* n. sp.

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*Contributions from the Toyama Science Museum, No.56.

ハヤシヒイロワラジムシ（新称）	*Littorophiloscia hayashii* n. sp.
オナガヒイロワラジムシ（新称）	*Littorophiloscia logicauda* n. sp.
ヒュウガヒイロワラジムシ（新称）	*Littorophilosia hyugaensis* n. sp.
ヒメワラジムシ科（新称）	Philloscidae VANDEL, 1952
モリワラジムシ属（新称）	*Setaphora* BUDDE-LUND, 1909
ヤマトモリワラジムシ（新称）	*Setaphora japonica* n. sp.
ムロトモリワラジムシ（新称）	*Setaphora murotoensis* n. sp.
オキナワモリワラジムシ（新称）	*Setaphora okinawaensis* n.sp.
ダイトウモリワラジムシ（新称）	*Setaphora daitoensis* n. sp.
オガサワラモリワラジムシ（新称）	*Setaphora boninensis* n. sp.
ワタナベモリワラジムシ（新称）	*Setaphora watanabei* n. sp.
シバタモリワラジムシ（新称）	*Setaphora shibatai* n. sp.
アオキモリワラジムシ（新称）	*Setaphora aokii* n. sp.
イシガキモリワラジムシ（新称）	*Setaphora ishigakiensis* n. sp.
イリオモテモリワラジムシ（新称）	*Setaphora iriomotensis* n. sp.
ヨナクニモリワラジムシ（新称）	*Setaphora yonakuniensis* n. sp.
ヤセワラジムシ属（新称）	*Leptophiloscia* HEROLD, 1932
キイヤセワラジムシ（新称）	*Leptophiloscia kiiensis* n. sp.
ニセヒメワラジムシ属（新称）	*Pseudophiloscia* BUDDE-LUND, 1906
ドナンニセヒメワラジムシ（新称）	*Pseudophiloscia donanensis* n. sp.
オキナワニセヒメワラジムシ（新称）	*Pseudophiloscia okinawaensis* n. sp.
シモジャナニセヒメワラジムシ（新称）	*Pseudophiloscia shimojanai* n. sp.
ハラダニセヒメワラジムシ（新称）	*Pseudophiloscia haradai* n. sp.
ツカモトニセヒメワラジムシ（新称）	*Pseudophiloscia tsukamotoi* n. sp.
ミナミワラジムシ属（新称）	*Papuaphiloscia* VANDEL,1970
エラブミナミワラジムシ（新称）	*Papuaphiloscia insulana* VANDEL, 1970
ミナミワラジムシ属の一種	*Papuaphiloscia* sp.
ホンワラジムシ科（新称）	Oniscidae LATREILLE, 1806
オカメワラジムシ属（新称）	*Exalloniscus* STEBBING, 1911
オカメワラジムシ	*Exalloniscus cortii* ARCANGELI, 1927
属未定	
ホンワラジムシ科の一種	Oniscidae sp.

Family Scyphacidae DANA, 1852 (continued)

(Jap. name : Umibe-warajimushiu-ka)

In the previous paper, 3 genera were treated. Now, another genus *Scyphax* is added to the Japanese terrestrial isopod fauna.

Genus *Scyphax* DANA, 1853

(Jap. name : Umibe-warajimushi-zoku, new)

Body somewhat convex. Epimera moderately developed. Pleon not abruptly contracted, last segment not much produced. Eyes cresent-shaped, occupying the dorsolateral side of cephalon. Second antenna with the flagellum 3- or 4- segmented. Pleopod with any pseudotracheae. Uropod exposed, inner branch arising only slightly in front of the outer branch. Habitat seems to be restricted to the moist part in the tidal or upper tidal zone.

Scyphax nipponensis n. sp.

(Jap. name : Nippon-umibe-warajimushi,new)

Figs. 56 and 57

Material examined : 12♂♂ (1♂ holotype, 4.6 mm in body length and 11 ♂♂ paratypes, 4.6~5.3 mm in body length) and 2♀♀ (1♀ allotype, 4.8 mm in body length and 1♀ paratype, 5.3 mm in body length), pebble shore, upper tidal zone of Nagasaki, Misaki-chô, Sennan-gun, Osaka Pref., coll. Noboru Nunomura, Nov. 18, 1975. Type series is deposited as follows : holotype (TOYA-Cr-5323), allotype (TOYA-Cr-5324) and 6 paratypes (TOYA-5325~5330) at the Toyama Science Museum, 3 paratypes (OMNH-Ar-2967~2969) at the Osaka Museum of Natural History, 1 paratype (YCM-CI-886) at the Yokosuka City Museum. 1 paratype (NSMT-Cr-9211) at the National Science Museum, Tokyo.

Description : Body oval, 2.2 times as long as wide. Body colour pale pink. Cephalon with relatively small anterolateral angles. Eyes small, each eye composed of 8~10 ocelli. All the peraeonal somites subequal in length. All the pleonal somites subequal in length. Pleotelson round.

First antenna (Fig. 56 B) ; 3-segmented ; first segment rectangular ; second segment conical ; terminal segment small.

Second antenna (Fig. 56 C), reaching the third peraeonal somite ; first segment small ; mutual length of second to fifth peduncular segments is 2 : 2 : 3 : 4. Flagellum 3-segmented and almost as long as long as the fifth peduncular segment ; mutual length of 3 segments is 4 : 3 : 4.

Right mandible (Fig. 56 D) ; pars incisiva 3-headed ; lacinia mobilis not chitinized and 5-toothed ; 2 hairy bristles behind lacinia mobilis ; processus molaris is represented only by a long hairy bristle.

Left mandible (Fig. 56 E) ; pars incisiva 3-headed ; lacinia mobilis also 3-toothed ; processus molaris is represented by a tuft of hairy bristles.

First maxilla (Fig. 56 F) ; outer lobe with 9 teeth at the tip ; outer 4 and innermost one are simple type ; intermediate 4 are bifid type.

Second maxilla (Fig. 56 G) elliptical with 2 big spines and many hair.

Maxilliped (Fig. 56 H) ; endite small and lanceolate ; palp rather big with 4 groups of setae.

First peraeopod (Fig. 57 A) ; basis rectangular and stout ; ischium rectangular but shorter and narrower than basis ; merus and carpus rectangular with 6 bifid setae and many fine setae on inner margin ; propodus not so long with 4～5 setae on inner magin ; dactylus with a sensory seta.

Second to fourth peraeopods (Fig. 57 B-D) ; basis rather stout ; ischium, merus and carpus rectangular with 4～9 setae on inner margin; propodus rather short ; dactylus with a sensory seta.

Fifth and sixth peraeopods (Fig. 57 E-F); basis oblong ; ischium rectangular ; merus with

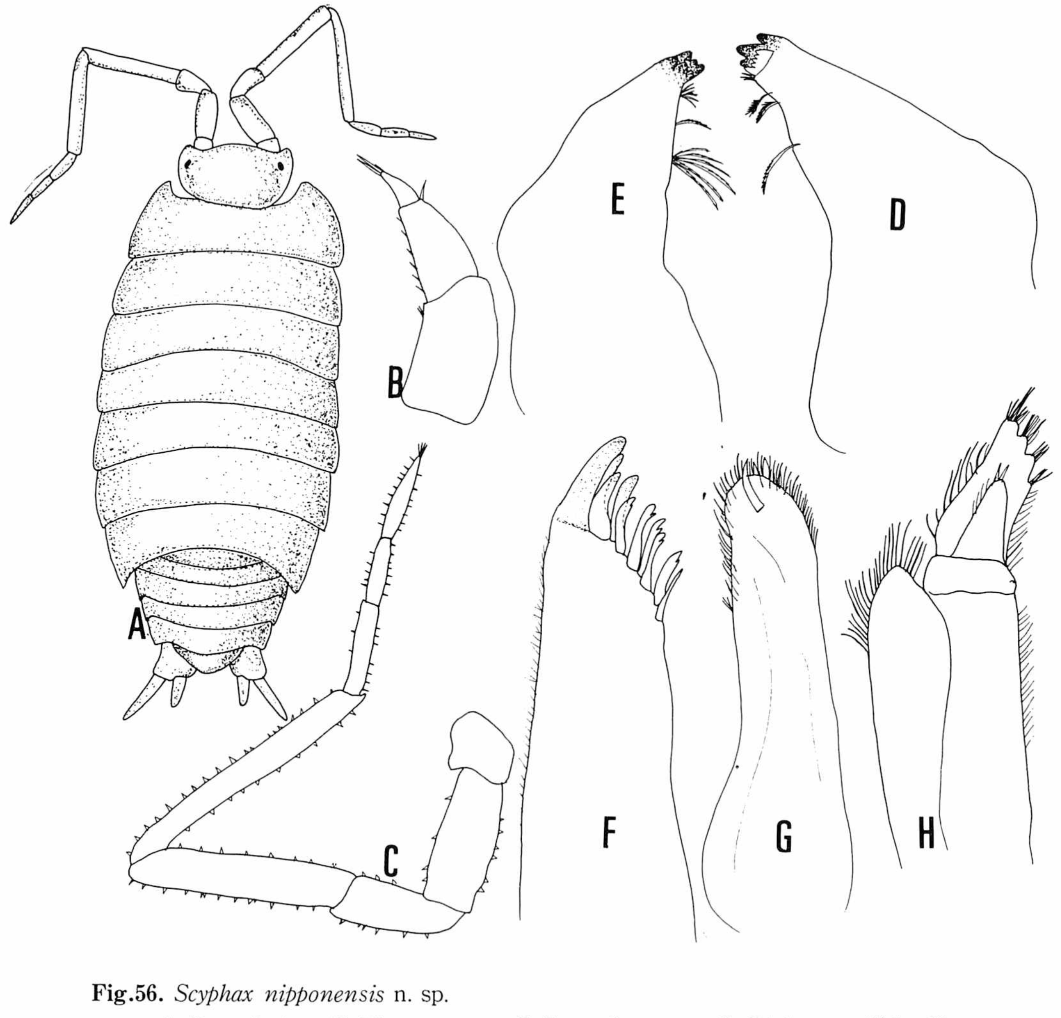

Fig.56. *Scyphax nipponensis* n. sp.

A. Dorsal view; B. First antenna; C. Second antenna; D. Right mandible ; E. Left mandible F. Outer lobe of first maxilla; G. Second maxilla; H. Maxilliped (All: Holotype male).

a sternal margin ; carpus rectangular with 4～6 setae on inner margin ; propodus rather long; dactylus with a sensory seta.

Seventh peraeopod (Fig. 57 G) ; basis rectangular ; ischium long with a slighly convex sternal margin ; merus and carpus rather short ; propodus shorter than those of the preceding peraeopods.

Penes (Fig. 57 H) lanceolate and narrow.

Male first peraeopod (Fig. 57 H) ; exopodite triangular ; endopodite becomes narrower towards the tip.

Male second pleopod (Fig. 57 I) ; exopodite elongated triangular; stylus long and straight, bearinig minute setae on the mid-basal part.

Uropod (Fig. 57 J) ; basis almost square ; endopodite rather short, 4.3 times as long as wide ; exopodite 1.3 times long as the endopodite.

Remarks : The present new species is the first record not only in Japan but also in

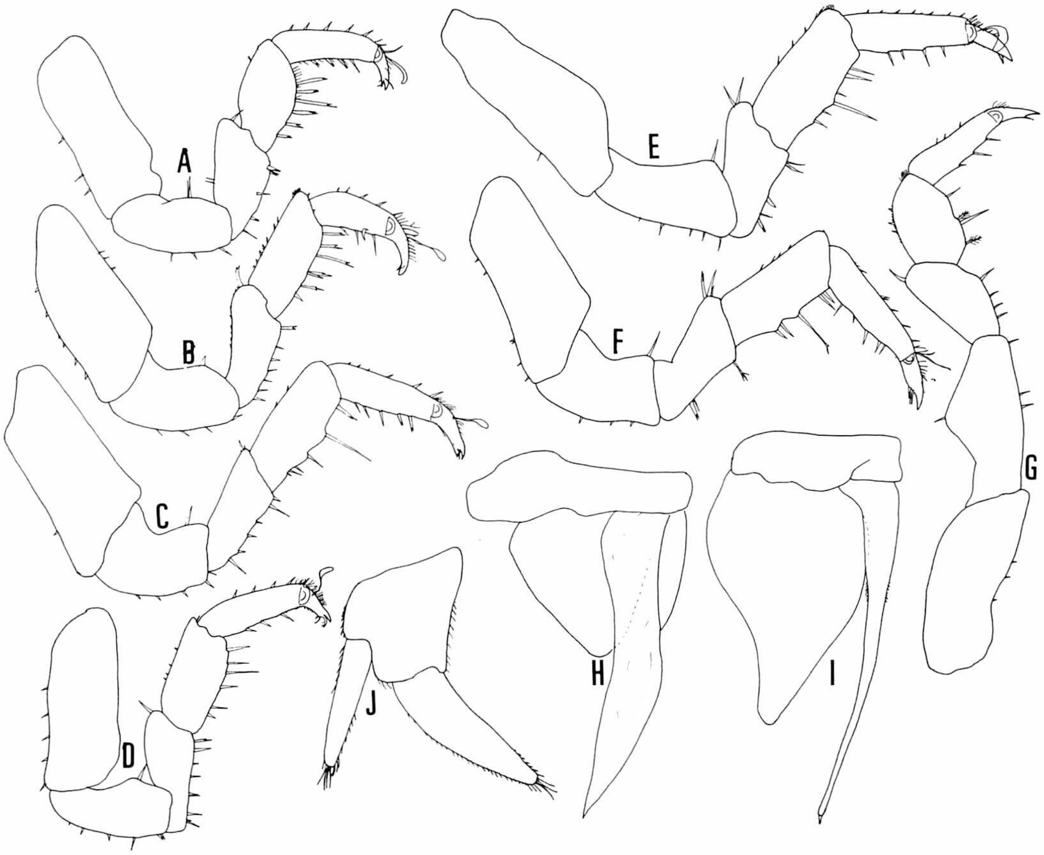

Fig.57. *Scyphax nipponensis* n. sp.

A-G. First to seventh peraeopods; H. Penes and male first pleopod; I. Male second pleopod(All: Holotype male).

Northrn Hemisphere. This species is closely allied to *Scyphax oronatus* DANA from New Zealand, but the former apparently differs from the latter in having the following features : (1) smaller eyes, (2) stouter endopodite of male first pleopod,(3) triangular exopodite of the same , (4) longer stylus of male second pleopod, (5) triangular and elongated exopodite of male second pleopod, (6) different shape in first antenna, (7) more-numerous and multi-formed teeth of outer lobe of first maxilla.

Family Marinoniscidae, new family

(Jap. name : Migiwa-warajimushi-ka, new)

Diagnosis : Without tracheal system. Flagellum of second antenna composed of 6∼7 segments and not distinctly slenderer than peduncle. Pleon abruptly narrower than peraeon. First maxilla with 10∼11 teeth on the tip of outer lobe. Palp of maxilliped partly segmented. Hindolateral corners of peraeonal somites I-III rectangular but those of peraeonal somites IV-VII acute.

Genus *Marinoniscus* n. gen.

(Jap. name : Migiwa-warajimushi-zoku, new)

Diagnosis is as that of the family. Type species: *Marinoniscus tomiokaensis* n. sp.

Key to the species of the Genus *Marinoniscus*.

1 Flagellum of second antenna composed of 7 segments. Outer lobe of first maxilla with 11 ∼12 teeth at the tip ···*M. tomiokaensis*, n.sp.

1' Flagellum of second antenna composed of 6 segments. Outer lobe of first maxilla with 10 teeth at the tip···M. sp.

Marinoniscus tomiokaensis n. sp.

(Tomioka-migiwa-warajimushi, new)

Fig. 58.

Material examined : 4♂♂ (1♂ holotype, 3.0 mm in body length and 3♂♂ paratypes, 1.8∼2.7 mm in body length) and 3♀♀ (1♀ allotype, 3.0 mm in body length and 2♀♀ paratypes, 3.7 mm in body length), on the muddy bottom among big rock, intertidal zone of Shiraiwazaki. Tomioka, Reihoku-chô, Kumamoto Pref., coll. N. Nunomura, July 29, 1980. These specimens were collected together with a seacumber, *Polycheira rufescens* and many polychaetous annelids. Type series is deposited as follows : holotype (TOYA-Cr-5319) and allotype (TOYA-Cr-5320) at the Toyama Science Museum, 1 paratype (OMNH-Ar-5322) at the Osaka Museum of Natural History ; 1 paratype (YCM-CI-885) at the Yokosuka City Museum and 1 paratype (NSMT-Cr-9210) at the National Science Museum, Tokyo.

Description : Body oblong, about 3 times as long as wide. Body colour vermillion in life, but pale brown in alcohol. Cephalon almost round ; medial process low but wide ; anterolateral projection small. Mutual length of peraeonal somites subequal. Posterolateral angles of first to fourth somites almost rectangular but those of fifth to seventh somite acutely protruded posteriorly. Eyes small, each eye composed of 12 ocelli. Posterior margin of pleotelson low and round.

First antenna (Fig. 58 B) small ; first segment rectangular ; second segment also rectangular but smaller than the first ; terminal segment round.

Second antenna (Fig. 58 C) rather long and reaching the posterior part of fourth peraeonal somite. First segment small and short : second segment almost square ; third

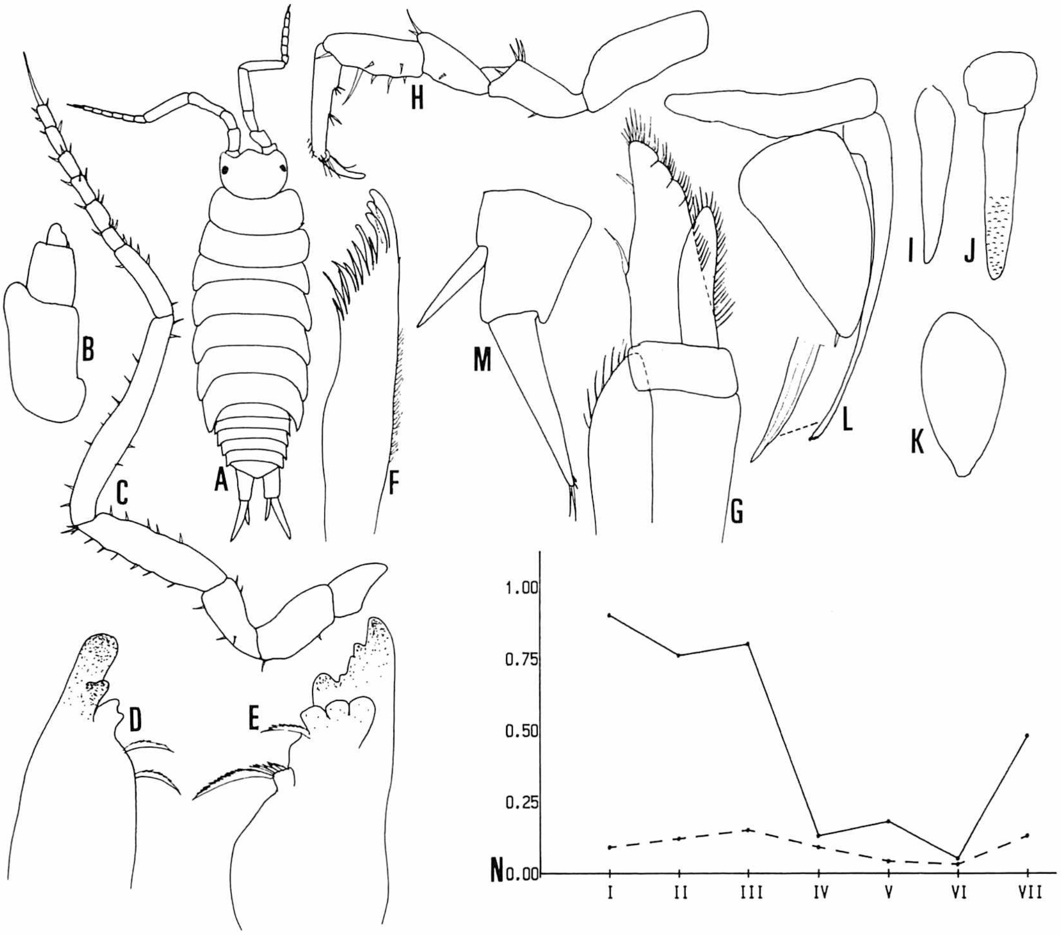

Fig.58. *Marinoniscus tomiokaensis* n. sp.

A. Dorsai view; B. First antenna; C. Second antenna; D. Right mandible; E. Left mandible; F. First maxilla; G. Maxilliped; H. Seventh peraeopod; I. Penes; J. Endopodite of male first pleopod; K. Exopodite of the same; L. Male second pleopod; M. Uropod; N. Position of noduli lateralis, a full line shows b/c and a broken line shows d/c (All: Holotype male).

segment rectangular, about twice as long as wide ; fourth segment, about 4 times as long as wide ; fifth segment slenderer but longer than the fourth, 6 times as long as wide. Flagellum composed of 7 segments and a long seta at the tip ; mutual length of 7 segments is 3 : 1: 1 :1 : 1 : 1 : 1.

Right mandible (Fig. 58 D) ; pars incisiva composed of 2 teeth, one of them is big ; lacinia mobilis not chitinized and 2-headed ; a hairy bristle and a processus molaris with a hairy bristle.

Left mandible (Fig. 58 E) ; pars incisiva strong and only wealky diveded into 3 teeth ; lacinia mobilis also chitinized and 3-headed; a seta behind lacinia mobilis ; processus molaris is represented by a small process bearing 8~10 hairs.

First maxilla (Fig. 58 F) with 12 entire teeth ; but only 11 teeth are observed in some specimens. Second maxilla normal.

Maxilliped (Fig. 58 G) ; endite narrow lanceolate with many hair ; palp with 3 incomplete incisions.

Seventh peraeopod (Fig. 58 H) ; basis oblong ; merus with a convex sternal margin ; merus triangular ; carpus rectangular with a long and 3~4 shorter setae on inner margin ; propodus long ; dactylus relatively long.

Penes (Fig. 58 I) ; linear-lanceolate.

Male first (Fig. 58 J & K) ; endopodite straight with many transverse bar-shaped structures on the distal half : exopodite oblong.

Male second pleopod (Fig. 58 L) ; exopodite deltoid ; stylus long and slightly recurved outerwards.

Uropod (Fig. 59 M) ; basis trapeozoidal ; endopodite narrow ; exopodite long and almost twice as long as the endopodite.

***Marinoniscus* sp.**

Figs. 59 and 60

Material examined : 2 ♂♂ (2.0~3.0 mm in body length) and 1 ♀ (2.5 mm in body length), from the bare land near the sea shore, Cina-chô, Okinoerabu Island, Oshima-gun, Kagoshioma Pref., coll. Noboru Nunomura, July 1, 1974. These specimens are deposited at the Toyama Science Museum (TOYA-Cr-5441~5443).

Description : Body elongated, about 2.7 times as long as broad. Body colour white in alcohol. Eye mediocre in size and each eye composed of 5 ocelli. Noduli lateralis is as Fig. 60.

Second antenna (Fig. 59 B) ; first and second peduncular segments round ; third segment rectangular ; fourth segment 1.5 times as long as the third ; fifth segment about twice as long as the third. Flagellum a little longer than fifth peduncular segment and 5- or 6-segmented.

Right mandible (Fig. 59 C) ; pars incisiva 2-headed ; lacinia mobilis not cihitinized and single-toothed ; 2 hairy bristles behind lacinia mobilis; processus molaris is represented by a single hairy bristle.

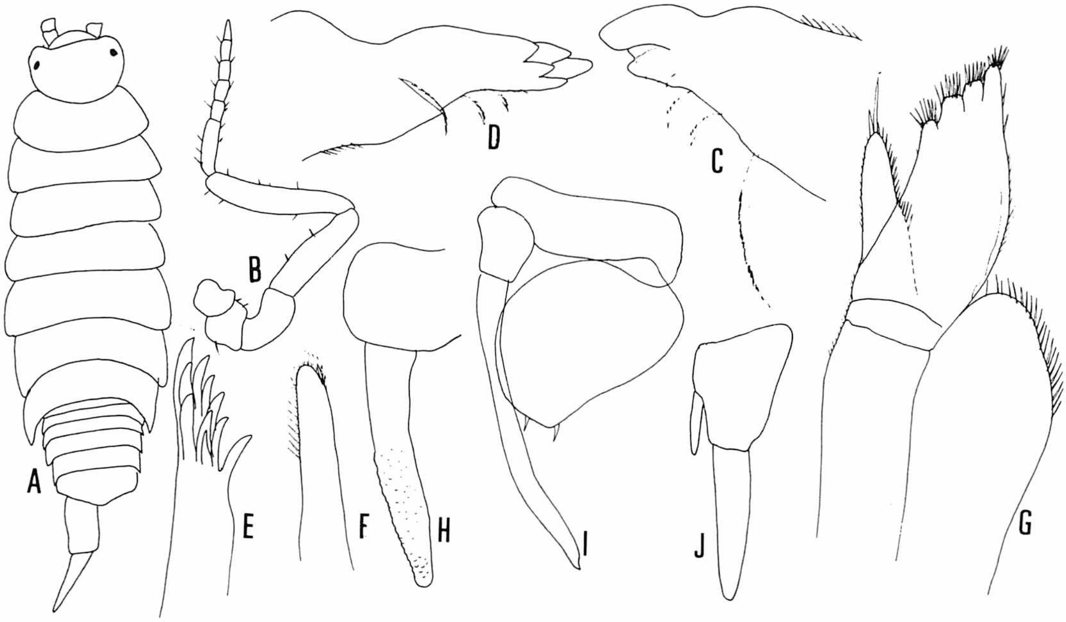

Fig.59. *Marinoniscus* sp.
A.Dorsal view; B. Second antenna; C. Right mandible; D. Left mandible; E. Outer lobe of first maxilla; F. Second maxilla; G. Maxilliped; H. Endopodite of male first pleopod; I. Male second pleopod; J. Uropod. (All: Male specimen).

Left mandible (Fig. 59 D); pars incisiva 2-headed; lacinia mobilis 3-headed; 2 hairy bristles behind lacinia mobilis; processus molaris is as the right mandible.

First maxilla (Fig. 59 E) with 10 simple teeth at the tip.

Second maxilla (Fig. 59 F) slender.

Maxilliped (Fig. 59 G); endite slender and lanceolate with 2 setae and many hair around the margin; palp rather robust with 4 groups of setae.

Male first pleopod (Fig. 59 H); endopodite straight and is coverd with many transverse bar-shaped ornamentations on the surface of distal half.

Male second pleopod (Fig. 59 I); endopodite long and recurved innerwards, exopodite rectangular.

Uropod (Fig. 59 J); basis trapeozoidal; endopodite short.

Remarks: The present specimens are, in some features, very closely allied to *Marinoniscus tomiokaensis* described in the present paper but it differs from *tomiokaensis* in the following features: (1) less numerous segmentation of second antenna, (2) shape of exopodite of male second pleopod, (3) shape of mandible, (4) less numer-

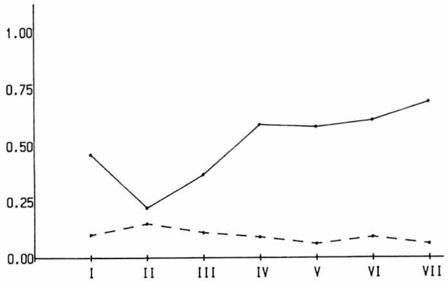

Fig.60. Position of noduli lateralis of *Marinoniscus* sp., a full line shows b/c and a broken line shows d/c.

ous teeth of exopodite of first maxilla, and (5) shape of uropod. The examination was limited to only a few incomplete secimens, therefore, I had to refrain from establishing a new species.

Family Halophilosciidae VERHOEFF, 1908

(Jap. name : Ushio-warajimushi-ka, new)

Second antenna with a 3-segmented flagellum. Maxilliped with a hairy bristle. Peraeopods with a dactylar seta. Penes bifurcated in principle, spermal ducts separate. Exopodite of pleopods without tracheal system.

Genus *Littorophiloscia* HATCH, 1949

(Jap. name : Hiiro - warajimushi-zoku, new)

Eyes with numerous ocelli. Second antenna with a 3-segmented flagellum and each segment subequal in length. Inner teeth of the outer lobe of first maxilla incised. Maxilliped with a hairy bristle but without tooth. Pleon abruptly narrower than peraeon. The lateral angles of the first to fifth segments protruded backwards. Male smaller than female. Habitat is the moist part of upper tidal zone.

Key to the Japanese species of the Genus *Littorophiloscia*

1 Noduli lateralis remarkable ……………………………… *L. hyugaensis* n. sp.
1' Noduli lateralis not recognizable except very young period ……………………… 2
2 First maxilla with 10 teeth on the outer lobe. ……………… *L. nipponensis* n.sp.
2' First maxilla with 9 teeth on the outer lobe ……………………………… 3
3 Uropod long, endopodite more than 8 times as long as wide ………… *L. longicauda* n. sp.
3' Uropod rather short, endopodite less than 5 times as long as wide. …… *L. hayashii* n. sp.

Littorophiloscia nipponensis n. sp.

(Jap. name : Nippon-hiiro-warajimushi, new)

Fig. 61

Material examined : 4♂♂ (1♂ holotype, 4.7 mm in body length and 3♂♂ paratypes, 3.6～4.7 mm in body length) and 3♀♀ (1♀ allotype, 4.5 mm in length and 2♀♀ paratypes, 4.0～4.5 mm in body length), Akasaki, Uchiura-chô, Suzu-gun, Ishikawa Pref., coll. Noboru Nunomura, June 28, 1984. 2♂♂ 3♀♀, Sosogi, Wajima City, Ishikawa Pref., coll. Noboru Nunomura, Sep. 3, 1985 ; 2♂♂ 1♀, Mouth of Jôganji-river near Hamakurosaki, Toyama City, Toyama Pref., coll. Noboru Nunomura, 1♂ 3♀♀, Ikeshima, Matsushima-chô, Amakusa-gun, Kumamoto Pref., June, 3, 1985. ; 3♂♂ 2♀♀, Asahi-machi, Hitachi City, Ibaragi Pref., coll. Noboru Nunomura, May, 7, 1983 ; 4♂♂ 1♀, Kujiranami, Kashiwazaki City, Niigata Pref., coll. Noboru Nunomura, July 9, 1982 ; 1♂, Kamo, Saigou-chô, Oki-gun, Shimane Pref., coll. Noboru Nunomura, Sep. 14, 1975 ; 2 exs, Izu-misaki, Miyake Island Tokyo Pref., coll. Osami Nakamura. Type series is deposited as follows : holotype (TOYA-Cr-5354), allotype (TOYA-Cr-5355) and 5 paratypes (TOYA-Cr-5356～5360) at the Toyama

Science Museum, 3 paratypes (OMNH-Ar-2978~2980) at the Osaka Musuem of Natural Histry, 2 paratypes (YCM -CI-891~892) at the Yokosuka City Museum and 2 paratypes (NSMT-Cr-9215) at the National Science Museum, Tokyo.

Description : Body oval-oblong, 2.6 times as long as wide. Body colour reddish-brown in alival state. Cephalon with low anterolateral angles and a rostral rostral projection. Each peraeonal somite in almost equal in length. Posterolateral angles of first to fourth peraeonal

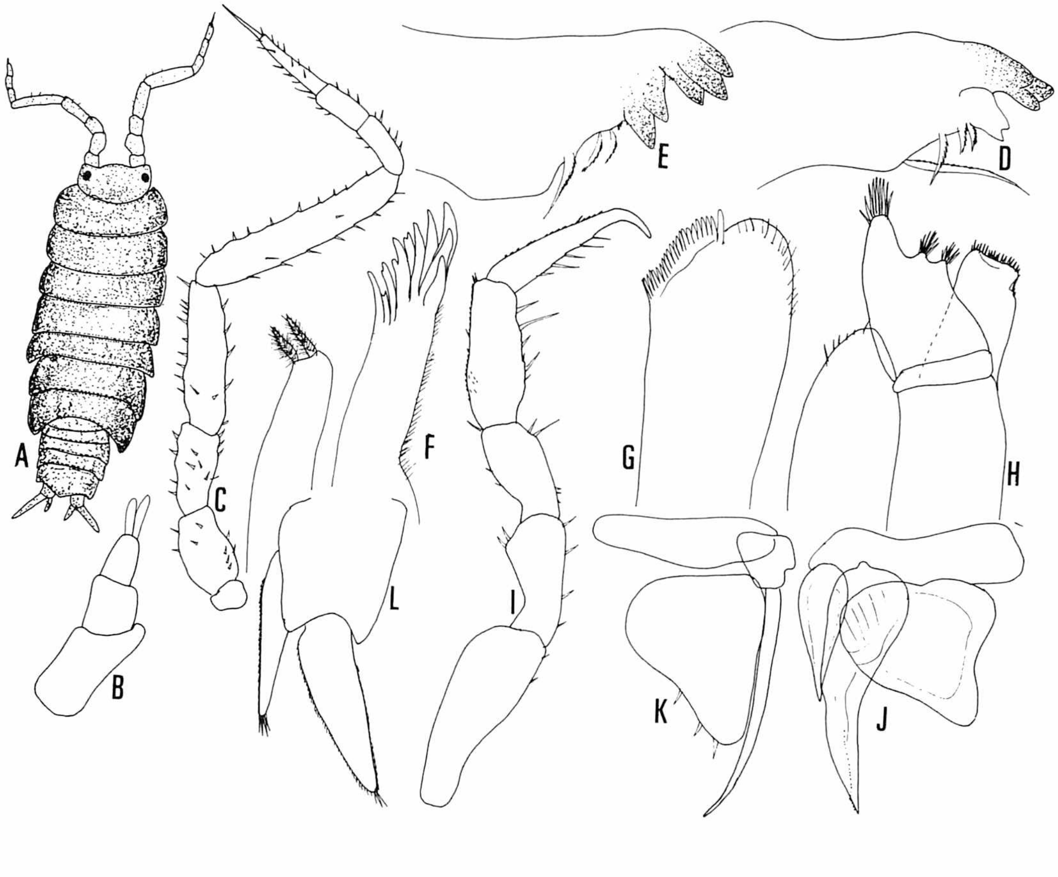

Fig.61. *Littorophiloscia nipponensis* n. sp.
A. Dorsal view; B. First antenna; C. Second antenna; D. Right mandible; E. Left mandible; F. First maxilla; G. Second maxilla; H. Maxilliped; I. Seventh peraeopod; J. Penes and male first pleopod; K. Male second pleopod; L. Uropod (A-K: Holotype male, L. Paratype male).

somites almost rectangular but those of fifth to seventh peraeonal somites protruded posteriorly. Eyes mediocre, each eye composed of 8～10 ocelli.

First antenna (Fig. 61 B) ; first segment rectangular ; second segment square ; terminal segment conical with 2 aesthetascs at the tip.

Second antenna (Fig. 61 C), reaching the posterior of third peraeonal somite. Peduncle 5-segmented ; first segment small ; second and third segments rectangular ; fourth segment nearly twice as long as the third ; fifth segment nearly 3 times as long as the third.Flagellum a little shorter than the fifth peduncular segment and mutual length is 2 : 3 : 3.

Right mandible (Fig. 61 D) ; pars incisivia 2-headed ; lacinia mobilis not chitinized and 3-headed ; 2 hairy bristles behind lacinia mobilis ; processus molaris is represented by only with a long hairy bristle.

Left mandible (Fig. 61 E) ; pars incisiva 3-headed ; lacinia mobilis 2-headed ; 2 hairy bristles behind lacinia mobilis ; processus molaris only with a long hairy bristle.

First maxilla (Fig. 61 F) ; outer lobe with 10 teeth at the tip ; outer 5 teeth and the innermost tooth are simple type but other teeth are bifid type.

Second maxilla (Fig. 61 G) normal.

Maxilliped (Fig. 61 H) ; endite rectnagular ; palp rather stout with 3 groups of setae.

Seventh peraeopod (Fig. 61 I) ; basis oblong ; ischum rectangular with a sternal margin ; merus rectangular ; carpus also rectangular and 1.5 times as long as merus ; propodus thin with 5～7 setae on inner margin.

Penes lanceolate. Male first pleopod (Fig. 61 J) ; exopodite deltoid ; endopodite linear-lanceolate, recurving slightly outerwards, bears more than 6 denticles on inner margin of distal part.

Male second pleopod (Fig. 61 K) ; stylus long and slightly recurved outerwards ; exopodite right angled triangle.

Uropod (Fig. 61 L) ; basis stout and almost square ; endopodite narrow lanceolate ; exopodite wider and slightly longer than the endopodite.

Remarks : The present new species is most is closely allied to *Littorophilocia richardsonae* (HOLMES and GAY, 1909) from "the moist swampy ground and under old sea weed on the edge of salt marsh at Laguna Beach, California". But the former is separated from the latter in the following features : (1) more numerous teeth on the outer lobe of first maxilla, (2) shape of posterior part of pleotelson, (3) shorter uropod.

***Littorophilosia hayashii*, n. sp.**

(Jap. name : Hayashi-hiiro-warajimashi, new)

Figs. 62 and 63

Material examined : 13♂♂ (1♂ holotype, 4.6 mm in body length and 12♂♂ paratypes, 2.7～3.7mm in body length) and 18♀♀ (1♀ allotype, and 17♀♀ paratypes, 2.5mm ～4.6mm in body length), Tenjin-jima, Yokosuka City, Kanagawa Pref., coll. Kimiyoshi Hayashi and

Noboru Nunomura, Nov. 27, 1983 ; 2♂♂ 4♀♀, Asamushi, Aomori City, Aomori Pref., coll. Noboru Nunomura, June 14, 1983 ; 1♂ 1♀, Joudogahama, Miyako City, Iwate Pref., coll. Noboru Nunomura, May 16, 1983 ; 2♀♀, Amatsukominato, Awa-gun, Chiba Pref., coll. Kiyoshi Ishii, May 21, 1983 ; 2♂♂, Tagurazaki, Wakayama City, Wakayama Pref., coll. Noboru Nunomura, Apr. 2, 1976. Type species is deposited as follows : holotype (TOYA-Cr-5422), allotype (TOYA-Cr-5423) and 17 paratypes (TOYA-Cr-5424～5440) at the Toyama Science Museum, 7 paratypes (YCM-CI-904～910) at the Yokosuka City Musum, 2 paratypes (OMNH-Ar-2994～2995) at the Osaka Museum, 2 paratypes (NSMT-Cr-9223) at the National

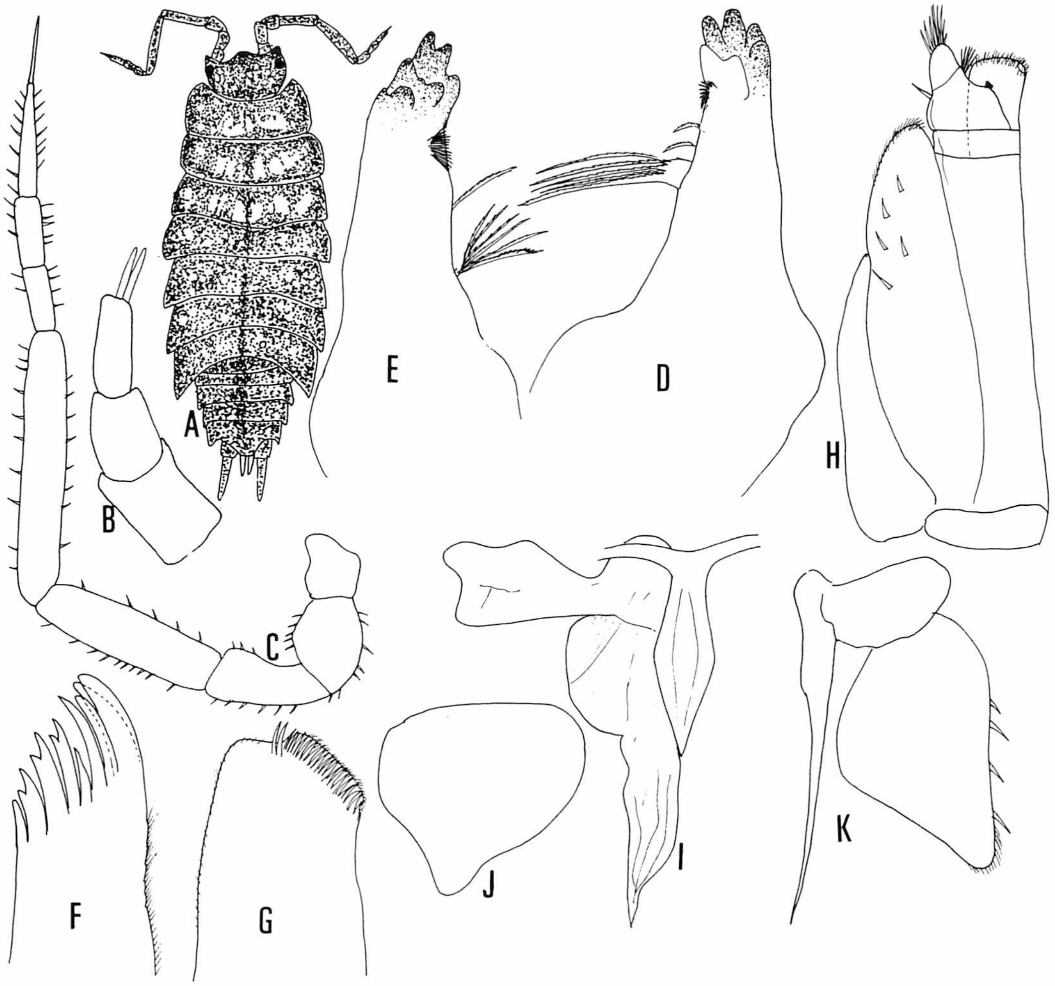

Fig.62. *Littorophiloscia hayashii* n. sp.
A.Dorsal view; B. First antenna; C. Second antenna; D. Right mandible; E. Left mandible; F. Outher lobe of first maxilla; G. Second maxilla; H. Maxilliped; I. Penes and endopodite of male first pleopod; J. Exopodite of the same; K. Male second pleopod (All: Holotype male).

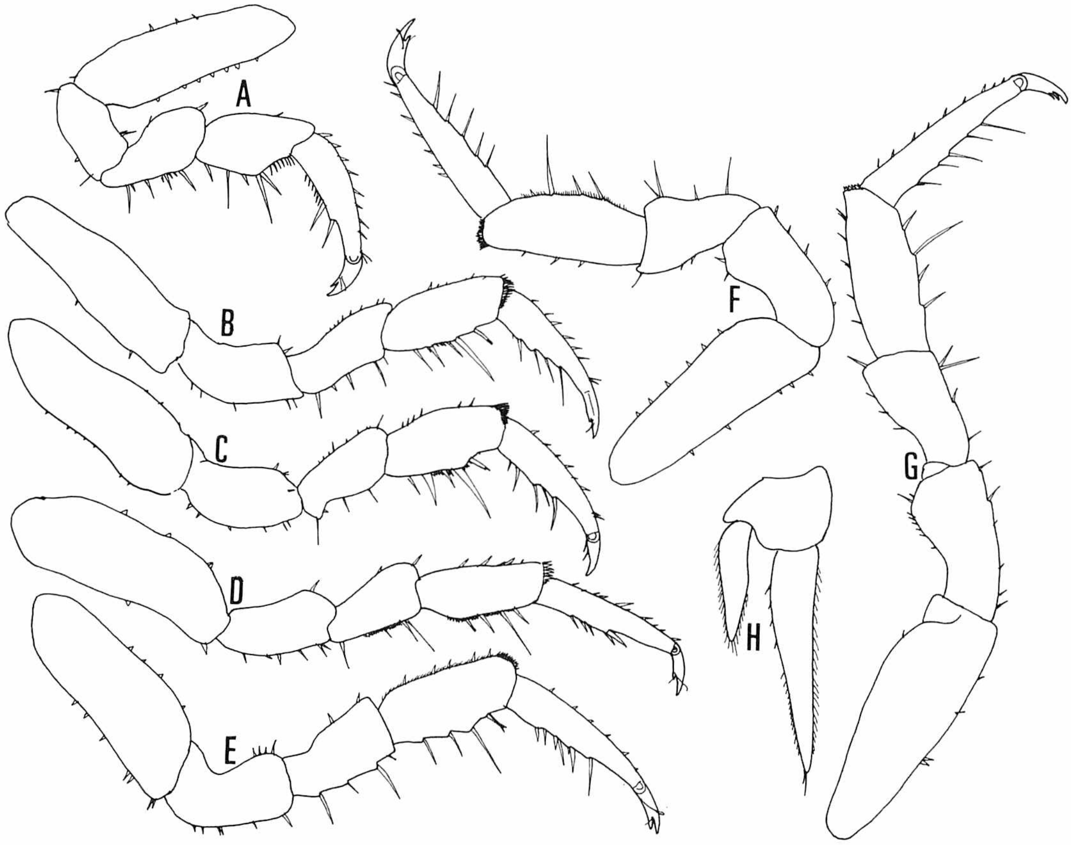

Fig.63. *Littorophiloscia hayashii* n. sp.
A-G. First to seventh peraeopods; H. Uropod (All: Holotype male).

Science Museum, Tokyo.

Description : Body lanceolate ; 2.4 times as long as wide. Anterolateral angles and rostral projection remarkably projected. Each peraeonal somite subequal in length. Eyes rather small, each eye composed of 9～10 ocelli.

First antenna (Fig. 62 B) 3-segmented and all the segments subequal in length ; terminal segment with 2 aesthetascs at the tip.

Second segment (Fig. 62 C), reaching the posterior part of the second peraeonal somite ; first segment small ; second segment square ; third segment rectangular ; fourth segment 1.6 times as long as the third ; fifth segment 1.4 times as long as the fourth. Flagellum 3-segmented and nearly as long as the fifth peduncular segment ; mutual length of 3 segments is 3 : 3: 7.

Right madible (Fig. 62 D) ; pars incisiva 4-headed ; lacinia mobilis not chitinized and weakly 2-headed ; 2 hairy bristles behind lacinia mobilis ; processus molaris is represented by only a group of hairy bristles.

Left mandible (Fig. 62 E) ; processus molaris 3-headed ; lacinia mobilis 4-headed ; a long hairy bristle behind lacinia mobilis ; processus molaris is as the right mandible.

First maxilla (Fig. 62 F) ; outer lobe with 9 teeth at the tip.

Second maxilla (Fig. 62 G) rectangular.

Maxilliped (Fig. 62 H) ; endite rectangular ; palp rather stout with 3 groups of setae.

First peraeopod (Fig. 63 A) shorter than other peraeopods ; basis rectangular ; merus rectangular but rather short; merus triangular ; carpus short with 2 long setae and a series of fine setae on inner margin.

Second to sixth peraeopods (Fig. 63 B-F) similar in shape ; basis oblong ; ischium merus rectangular ; carpus rectangular with a group of fine setae at outer distal corner ; propodus long 5～7 setae on inner margin.

Seventh peraeopod (Fig. 63 G) longer than preceding peraeopods ; basis rectangular but long ; ischium with a sternal margin but not so acute ; merus to carpus as those of the preceding ones ; propodus long with 5 setae on inner margin.

Penes (Fig. 62 I) ; rhomb-shaped.

Male first pleopod (Fig. 62 I) ; exopodite almost triangular ; endopodite composed of broad basal part and tapering distal part.

Male second pleopod (Fig. 62 K) ; stylus long and straight ; exopodite triangular with 4 spines on outer margin.

Uropod (Fig. 63 H) ; basis short ; endopodite lanceolate ; exopodite nearly twice as long as the endopodite.

Remarks : The present new species is closely allied to *Littorophiloscia nipponensis* already described in this paper, but the former is separated from the latter in the following features : (1) less numerous teeth in the outer of first maxilla, (2) longer uropod, (3) well developed anterolateral angles of cephalon.

***Littorophiloscia longicauda* n. sp.**

(Jap. name : Onaga-hiiro-warajimushi, new)

Fig. 64

Material examined : 2♂♂ (1♂ holotype,3.6mm in body length and 1♂ paratype, 4.2mm in body length and 8♀♀ (1♀ allotype, 4.3mm and 7♀♀ paratypes, 4.0～4.9mm in body length), Nikishima, Kumano City, Mie Pref., coll. Noboru Numomura, July 4, 1985 ; 1♂ 1♀, Ichigi, Mihama-chô, Minamimuro-gun, Mie Pref., coll. Noboru Nunomura, July 4, 1985. Type series is deposited as follows : holotype (TOYA-Cr-5410), allotype (TOYA-Cr-5411) and 5 paratypes (TOYA-Cr-5412～5416) at the Toyama Science Museum ; 1 paratype (OMNH-Ar-2991) at the Osaka Museum of Natural History, 1 paratype (YCM-CI-902) at the Yokosuka City Museum, 1 paratype (NSMT-Cr-9221) at the National Science Museum, Tokyo.

Description: Body lanceolate, 2.2 times as long as wide. Body colour reddish brown.

Cephalon with remarkable anterolateral projections.

First peraeonal somite wider than the other somites. Posterolateral angles of first to fourth peraeonal somites almost rectangular but those of fifth to seventh peraeonal somite protruded posteriorly. Eyes mediocre, each composed of 10 ocelli.

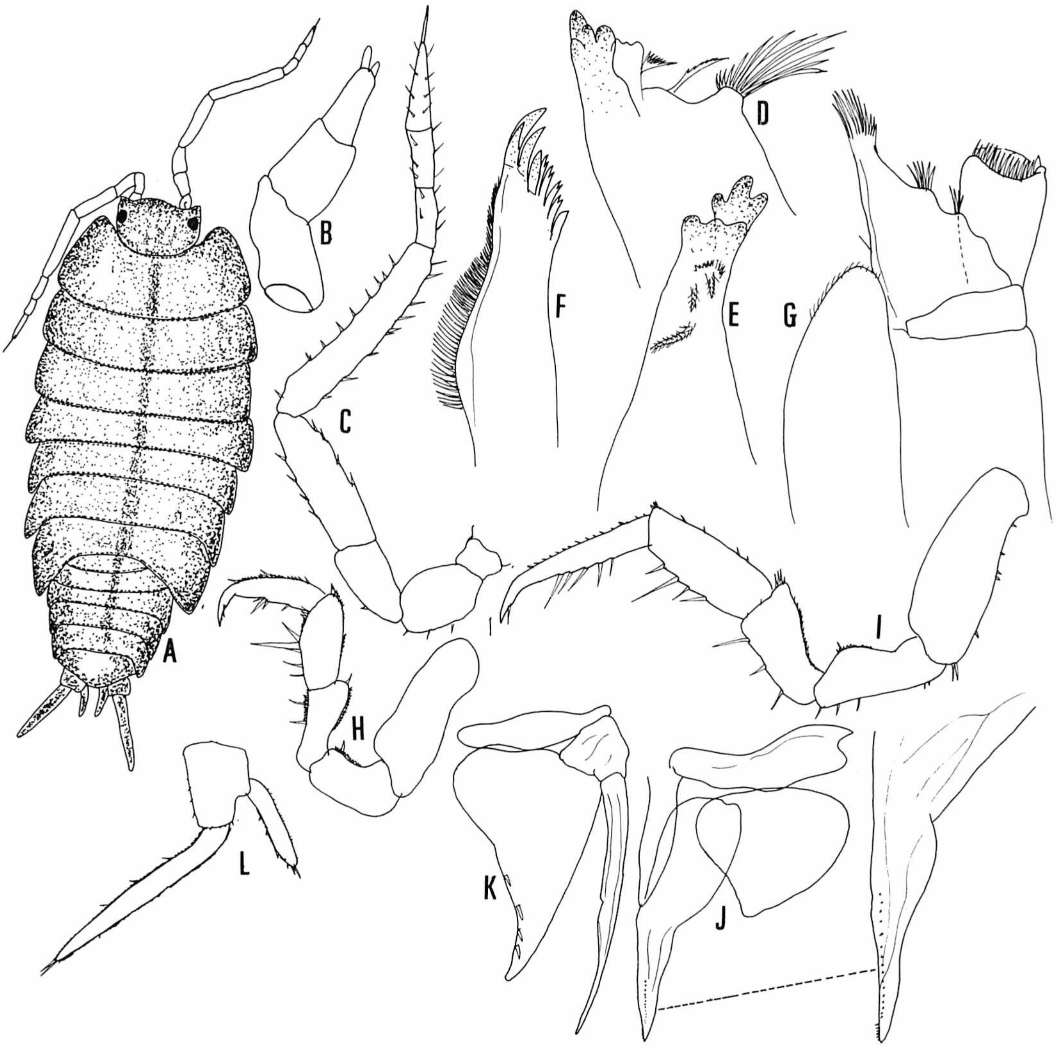

Fig.64. *Littorophiloscia longicauda* n. sp.
A. Dorsal view; B. First antenna; C. Secnd antenna; D. Right mandible; E. Left mandible; F. First maxilla; G. Maxilliped; H. First peraeopod ; I. Seventh peraeopod; J. Penes and male first pleopod; K. Male second pleopod; L. Uropod (All: Holotype male).

First antenna (Fig.64 B); first and second segments rectangular; terminal segment conical with 2 short aesthetascs at the tip.

Second antenna (Fig. 64 C); first segment short; second and third segments rectangular; fourth segment nealy twice as long as the third; fifth segment 1.5 times as long as the fourth. Flagellum 3-segmented and almost as long as the fifth peduncular segment; terminal segment a little longer than the other segments.

Right mandible (Fig. 64 D); pars incisiva 4-headed; lacinia mobilis not chitinized and weakly 3-headed; a group of small setae and a hairy bristle behind lacinia mobils; processus molaris is represented by a small knob bearing a group of long setae.

Left mandible (Fog. 64 E); pars incisiva 3-headed; lacinia mobilis weakly 3-headed; a group of small setae behind lacinia mobilis; processus molaris is as the right mandible.

First maxilla (Fig. 64 F) with 9 teeth at the tip of outer lobe.

Second maxilla normal.

Maxilliped (Fig. 64 G); endite rectangular with many setae on the distal margin; palp rather broad and with 3 groups of setae.

Seventh peraeopod (Fig. 64 I); basis rectangular; ischium and merus rectangular with 3 ～4 setae on inner margin and many denticles on outer margin; carpus rectangular but 1.5 times as long as merus; propodus rather long.

Penes (Fig. 64 J) rather narrow and club-shaped.

Male first pleopod (Fig .64 J); exopodite round; endopodite almost straight and bearing more than 6 setae on distal margin.

Male second pleopod (Fig. 64 K); exopodite long and tapering towards the tip, bearing 4 spines on outer margin.

Uropod (Fig. 64 L) long; exopodite especially long, about 10 times as long as wide.

Remarks: The present new species is most closely allied to *Littorophiloscia hayashii*, collected from Yokosuka, already described in the report, but the former is separated from the latter in the following features: (1) longer uropod, especially long endopodite,(2) presence of many denticles on the endopodite of male first pleopod,(3)narrow penes and (4) triangular exopoodite of male second pleopod.

Littorophiloscia hyugaensis **n. sp.**

(Jap. name: Hyuga-hiiro-warajimushi, new)

Figs. 65 and 66

Material examined: 6♂♂ (1♂ holotype, 2.9mm in body lenth and 5♂♂ paratypes 2.6～3.5mm in body length) and 4♀♀ (1♀ allotype,3.0mm in body length and 3♀♀ paratypes, 3.2mm～4.2mm in body length), Aoshima, Miyazaki City, Miyazaki Perf., coll. Noboru Nunomura, Sep. 23, 1983. Type series is deposited as follows: holotype (TOYA-Cr-5417), allotype (TOYA-Cr-5418) and 3 paratypes (TOYA-Cr-5419～5421) at the Toyama Science Museum, 2 paratypes (OMNH-Ar-2992～2993) at the Osaka Museum of Natural History, 1

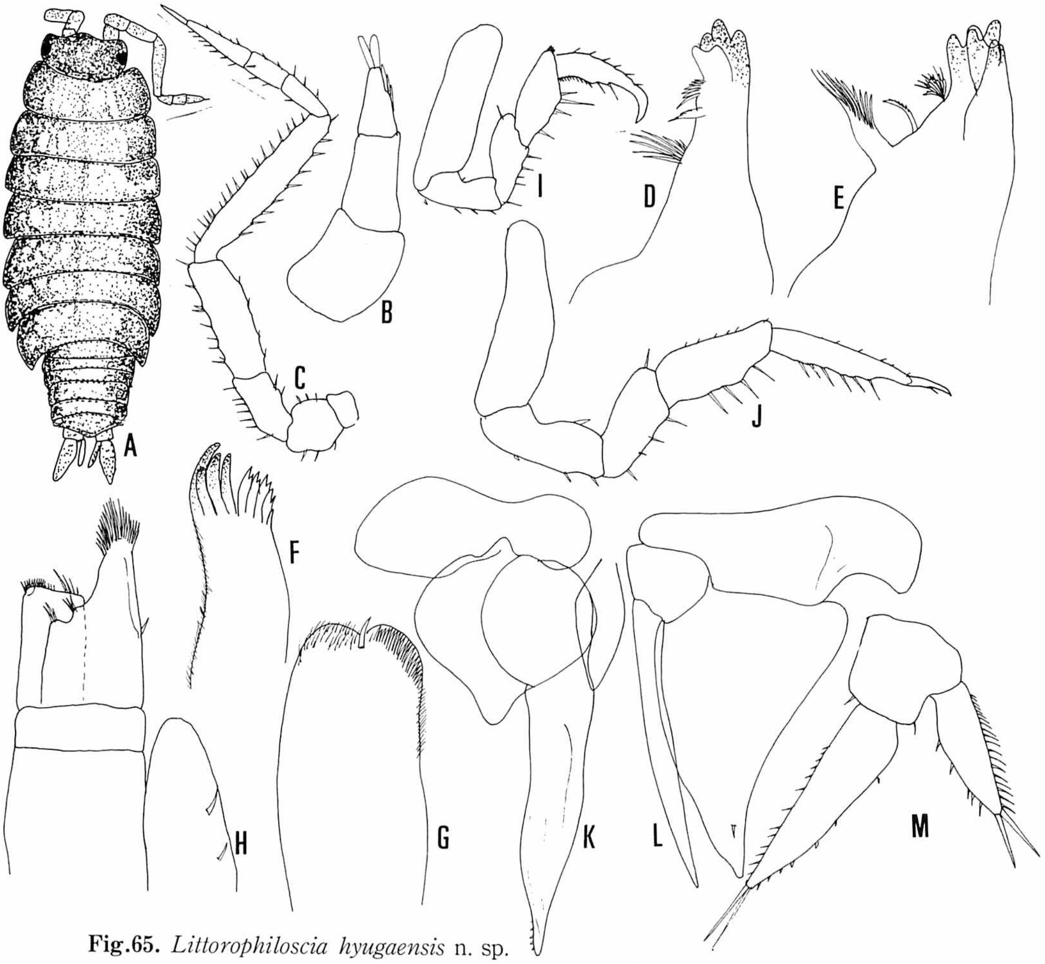

Fig.65. *Littorophiloscia hyugaensis* n. sp.
A. Dorsal view; B.First antenna; C. Second antenna; D. Right mandible E. Left mandible;F. First maxilla;G. Second maxilla;H. Maxilliped; I. First peraeopod; J. Seventh peraeopod; K. Penes and male first pleopod; L. Male second pleoped; M. Uropod (All: Holotype male).

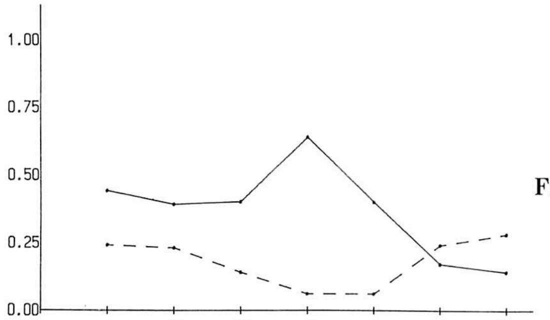

Fig.66. Position of noduli lateralis *Littorophiloscia hyugaensis* n. sp., a full line shows b/c and a broken line shows d/c.

paratype (YCM-CI-903) at the Yokosuka City Museum and 2 paratypes (NSMT-Cr-9222) at the National Science Museum, Tokyo.

Descripton : Body lanceolate, 2.5 times as long as wide. Lateral angles of cephalon only slightly projected. Each peraeonal somite subequal in length. Posterolateral angles of peraeonal somites I-IV almost rectangular but those of fifth to seventh somites protruded acutely posteriorly. Eyes mediocre in size, each eye composed of 10～11 ocelli. Noduli lateralis remarkable (Fig. 65 M).

First antenna (Fig. 65 B) ; first segment big and almost square ; second segment rectangular ; terminal segment tapers towards tip and with 4 aesthetascs.

Second antenna (Fig. 65 C) rather short, reaching the posterior margin of second peraeonal somite.

Right madible (Fig. 65 D) pars incisiva 3-headed ; lacinia mobilis not chitinzed and with a shallow concavity ; a group of setae and a hairy bristle behind lacinia mobilis ; processus molaris is represented only by a small protuberence with a group of plumose setae.

Left mandible (Fig. 65 E) has a chitinized 3-headed lacinia mobilis but other parts are as the right one.

First maxilla (Fig. 65F) ; outer lobe with 9 teeth at the tip ; outer four teeth and innermost one simple type and other four are bifid.

Second maxilla (Fig. 65 G) weakly bilobed and with many hair.

Maxilliped (Fig. 65 H) ; endite rectangular ; palp straight and with many setae on the distal margin and other 2 groups of a few of setae on inner margin.

Seventh peraeopod (Fig. 65 J); ischium to carpus rectangular ; propodus rather long with 6 setae on inner margin.

Penes (Fig. 65 K) rhomb-shaped.

Male first pleopod (Fig. 65 K) ; exopodite round;endopodite straight with 5～6 denticles on the distal margin.

Male second pleoped (Fig. 65 L) ; exopodite trianglar ; endopodite short, as long as the exopodite.

Uropod (Fig. 65 M) exopodite rather stout, 1.6 times as long as endopodite.

Remarks:The present new species is most closely allied to *Littorophiloscia hayashii* already described in this paper, but the former is separated from the latter in the following features : (1) presence of noduli lateralis, (2) shorter stylus of male second pleopod, and (3) longer exopodite of male second pleopod.

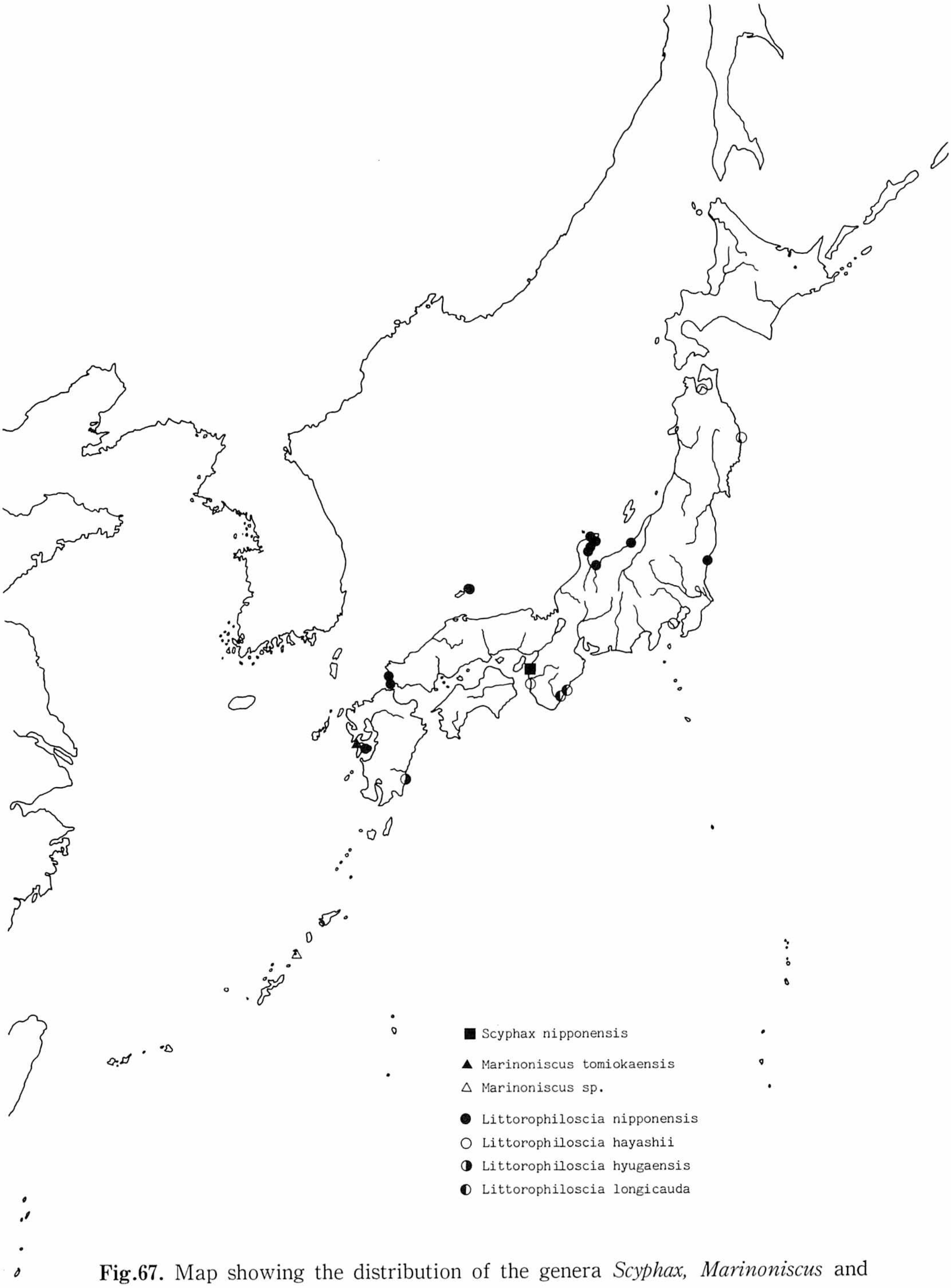
■ Scyphax nipponensis
▲ Marinoniscus tomiokaensis
△ Marinoniscus sp.
● Littorophiloscia nipponensis
○ Littorophiloscia hayashii
◑ Littorophiloscia hyugaensis
◐ Littorophiloscia longicauda

Fig.67. Map showing the distribution of the genera *Scyphax, Marinoniscus* and *Littorophiloscia.*

Family Philosciidae VANDEL, 1952

(Jap. name ; Hime-warajimushi-ka, new)

Body elongated or somewhat long. Pleon narrower than peraeon. Second antenna with 3-segmented flagellum. Maxilliped with or without hairy bristle on the endite. Penes simple. All the pleopods without pseudotracheae. Littoral or forest in habitat.

Key to the genera of the Family Philosciidae in Japan.

1 Body elongated, usually more than 3 time as long as wide. First maxilla with less than 9 teeth on the outer lobe ………………………………………………………………2

1' Body not so elongated usually less than 2.5 times as long as wide.First maxilla with 10 teeth……………………………………………………………Genus *Setaphora*

2 First maxilla with 9 teeth on outer lobe……………………………………………3

2' First maxilla with 8 teeth on outer lobe ………………………Genus *Papuaphiloscia*

3 Processus molaris of mandible is represented by a single hairy bristle ……………… ……………………………………………………………Genus *Pseudophiloscia*

3' Processus molaris of mandible is represented by a tuft of hairy bristles ……………… ……………………………………………………………Genus *Leptophiloscia*

Genus *Setaphora* BUDDE-LUND, 1909

(Jap. name : Mori-warajimushi-zoku, new)

Philosciidae with reduced maxilliped ; 10 teeth at the tip of first maxilla. Species of this genus dominant in the litter of the forests all over southern Japan. This genus is endemic in the Indo-West Pacific Area.

Key to Japanese species of the Genus *Setaphora*

1 Body white without pigment ……………………………………………*S. aokii* n. sp.

1' Body with pigments ……………………………………………………………2

2 Body big, length often exceeds 9mm, endopodite of male first pleopod without denticle3

2' Body less than 6mm in length, endopodite of male first pleopod with denticles …………5

3 Posterior part of pleotelson truncated, posterolateral part of seventh peraeonal somite truncated. Noduli lateralis on peraeonites II-V remarkable ……………………………… ……………………………………………………………*S. yonakuniensis* n. sp.

3' Posterior part of pleotelson acutely protruded, posterior margin of seventh peraeonal somite acutely protruded. Noduli lateralis of peraeonites I,V-VII remarkable …………4

4 Penes rather wide. Expodite of male first pleopod semicircular…………………………… ……………………………………………………………*S. ishigakiensis* n. sp.

4' Penes narrower. Exopodite of male first pleopod elliptical. ……… *S. iriomotensis* n. sp.

5 Endopodite of male first pleopod with a lappet - like structures near the tip. …………6

5' Endopodite of male first pleopod without remarkable lappet-like structure near the tip. ……………………………………………………………………………9

6 Tip of penes not pointed. Endite of maxilliped with slighly setose…………………………7

6' Tip of penes pointed. Endite of maxilliped without seta ·······································8

7 Body rather robust, less than twice as long as wide. Exopodite of male first pleopoed rectangular ··*S. okinawaensis* n. sp.

7' Body rather long, more than 2.2 times as long as wide. Expodite of male first pleopod triangular ···*S. daitoensis* n. sp.

8 Exopodite of male first pleopod rectangular. Noduli lateralis on peraeonite II is not so remote ···*S. murotensis* n. sp.

8' Exopodite of male first pleopod triangular. Noduli lateralis on peraeonite II is very remote···*S. watanabei* n. sp.

9 Apex of penes pointed. Noduli lateralis on peraeonite II is not so remoto ················ ···*S. japonica* n. sp.

9' Apex of penes not pointed. Noduli lateralis on peraeonite II is remote ····················10

10 Exopodite of male first pleopod elliptical. Endite of maxilliped not setose. Each eye composed of less than 23 ocelli. ··*S. shibatai* n.sp.

10' Exopodite of male first pleopod semicircular. Endite of maxilliped setose. Each eye composed of more than 26 ocelli. ··*S. boninensis* n. sp.

***Setaphora japonica* n. sp.**

(Jap. name : Yamato-mori-warajimushi, new)

Figs. 68 and 69

Material examined : 18♂♂ (1♂ holotype, 3. 8mm in body length and 17♂♂ paratypes, 3. 0~4.1mm in body length) and 15♀♀(1♀ allotype, 5.0mm in bod length and 14♀♀ paratypes, 3.8~6.1mm on body length), Fujishirozaka, Fujishiro, Kainan City, Wakayama Pref., coll. Yoshiaki Nishikawa ; 1♂ 4♀♀, Fukaematsuzue, Nijou-chô, Itoshima-gun, Fukuoka Pref., coll. Shingo Tanaka, June 21, 1981 ; 1♂ 1♀, Kofu-machi, Kamegawa,Beppu City, Ooita Pref., coll. Noboru Nunomura, Sep. 24, 1983 ; 1♀, Ibi, Nichinan City, Miyazaki Pref., coll. N. Nunomura, Sep. 23, 1983 ; 1♂ 2♀♀, Shimadomari, Sata-chô, Kimotsuki-gun, Kagoshima Pref., coll. Hiroshi Morino, Oct. 8, 1982 ; 3♀♀, Chûô-kouen, Kanoya City, Kagoshima Pref., coll. Hiroshi Morino, Oct. 11, 1982 : 1♂ 1♀, Shiroyama-kouen, coll. Tôru Nunomura, Apr. 2, 1976. Type series is deposited as follows : holotype (TOYA-Cr-5446), allotype (TOYA-Cr-5447), and 16 paratypes (TOYA-Cr-5448~5463) at the Toyama Science Museum, 5 paratypes (OMNH-Ar-2996~3000) at the Osaka Museum of Natural Histry, 5 paratypes (YCM-CI-911~915) at the Yokosuka City Museum, and 5 paratypes (NSMT-Cr-9224) at the National Science Museum, Tokyo.

Description : Body elliptical, 2.3 times as long as wide. Eyes big, each eye with 20 ocelli. Body colour blackish with paler irregular patterns on dorsal surface. Each peraeonal somite is subequal in length. Each pleonal somite subequal in length. Pleotelson trianglular. Noduli lateralis of peraeonite II is somewhat remote (Fig. 68 H).

First antenna (Fig. 69 H) ; first segment square with a long protuberences ; second segment square ; terminal segment with 2 aesthetascs at the tip and 2~3 aesthetascs on the lateral margin.

Second antenna (Fig. 69 I), reaching the anterior part of the third peraeonal somite ; first segment small ; second and third segments rectanglar ; fourth segment nearly twice as long as the third ; fifth segment 1.4 times as long as the fourth. Flagellum as long as the fifth peduncular segment and second segment a little shorter than the first.

Right mandible (Fig. 69 J) ; pars incisiva composed of 4 teeth ; lacinia mobilis not chitinzed with a shallow concavity ; 2 hairy bristles behind lacinia moibilis ; processus molaris is represented by only as a hairy bristle.

Left mandible(Fig. 69 K) ; pars incisiva compoosed of 3 teeth ; lacinia mobilis 2-headed, a group of fine hair and a hairy bristle behind lacinia mobilis ; processus molaris is represent-

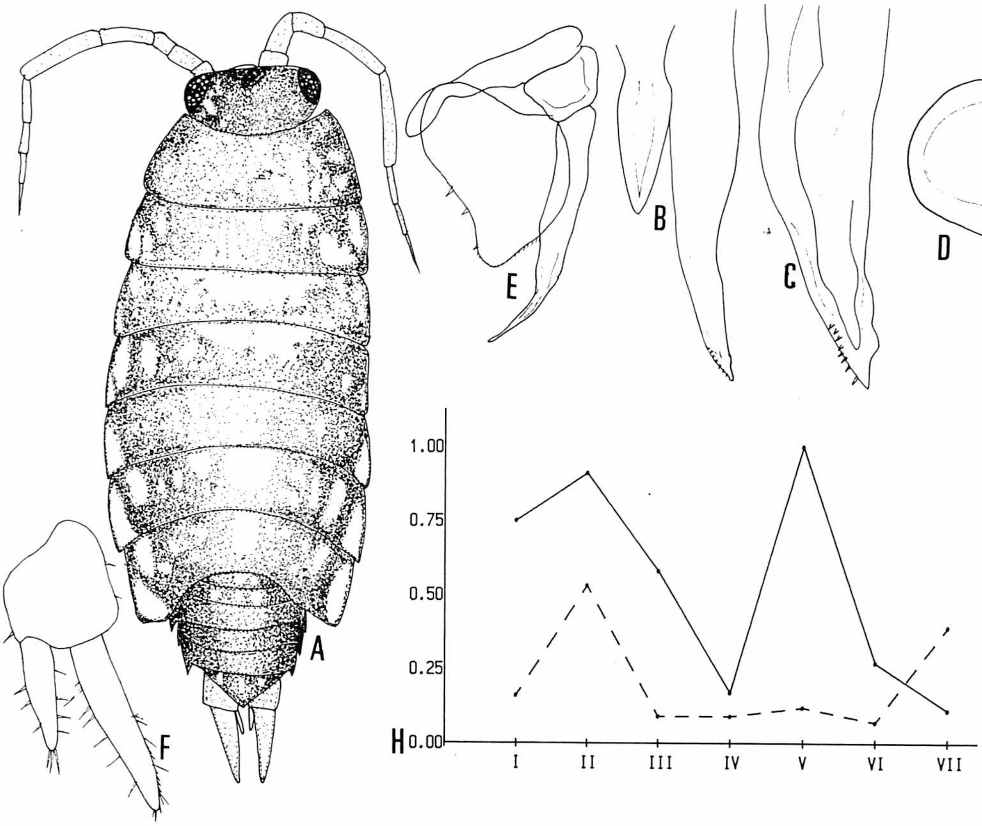

Fig.68. *Setaphora japonica* n. sp.

A. Dorsal view; B. Penes and male first pleopod; C. Apical part of male first pleopod; D. Exopodite of the same; E. Male second pleopod; F. Uropod; H. Position of noduli lateralis, a full line shows b/c and a broken line shows d/c (All: Holotype male).

ed only by its long hairy bristle.

First maxilla (Fig. 69 L) ; outer lobe with 10 setae ; outer 4 teeth are simple and strong ; intermediate 4 teeth are bifid and inner 2 are also simple type ; inner lobe with 2 hairy bristles at the tip.

Second maxilla (Fig. 69 M) bilobed and with rather wide dental part.

Maxilliped (Fig. 69 N) ; endite round and bare at the tip ; palp rather short with 3 groups of setae on inner and distal margins.

First peraeopod (Fig. 69 A) ; basis rectangular ; ischium and merus rectangular ; carpus rectangular but narrower than merus, and with 5 setae on inner margin and a series of small setae on distal part of inner margin ; propodus rather short.

Second peraeopod (Fig. 69 B) almost similar to the first peraeopod, but is bigger in carpus and lacking in a group of setae of carpus.

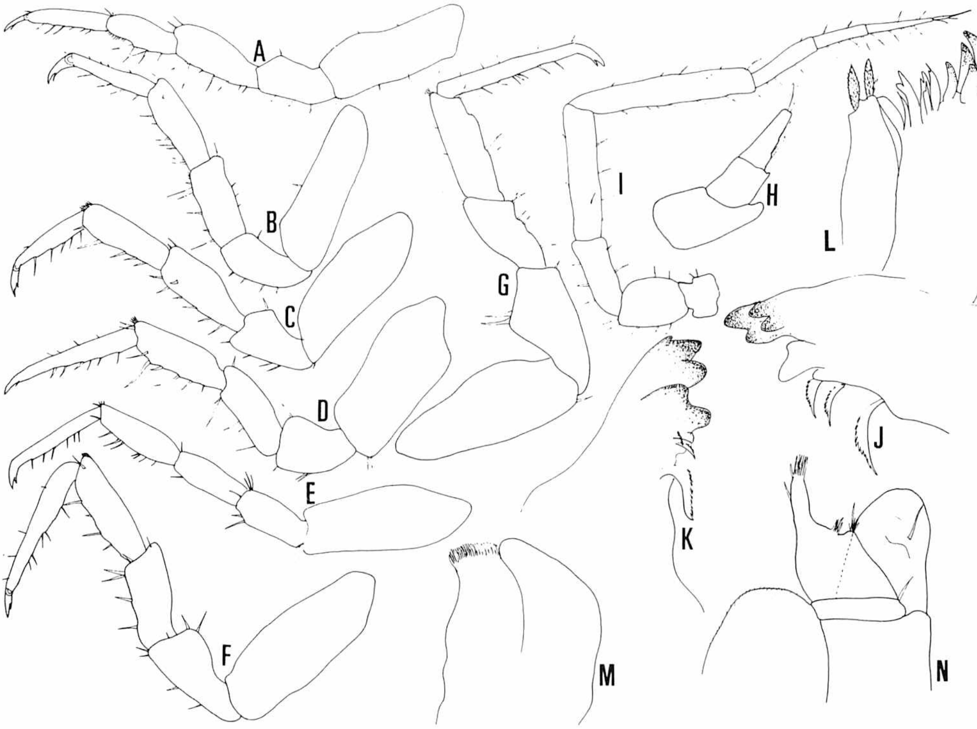

Fig.69. *Setaphora japonica* n. sp.
A-G. First to seventh peraeopods; H. First antenna; I. Second antenna J. Right mandible; K. Left mandible; L. First maxilla; M. Second maxilla; N. Maxilliped(All: Holotypoe male).

Third to sixth peraeopods (Fig. 69 C-F) similar in shape ; basis rectangular and big ; ischium and merus rectanglar ; carpus rectangular with a group of small setae at the outer distal corner ; propodus long.

Seventh peraeopod (Fig. 69 G) ; basis stout and oblong ; ischium with a sternal margin ; merus rectangular with 5 setae on inner margin and long seta at the outer distal corner ; carpus rectangular with 5～6 setae on inner margin and a group of setae at the outer distal corner ; propodus long.

Penes (Fig. 68 B) fusiform.

Male first pleopod (Fig. 68 B-D) ; endopodite almost straight and with 8～9 denticles on inner margin of the distal part ; exopodite rounded and with a shallow concavity on inner margin.

Male second pleopod (Fig. 68 E) ; exopodite deltoid but with a very shallow concavity and 3 denticles on outer margin and with many small setae around the distal margin ; endopodite rather short and recurved outerwards.

Uropod (Fig. 68 F) ; basis almost square ; endopodite 3.8 times as long as wide ; exopodite 1.6 times as long as wide.

Remarks : The present new species seems to be most closely allied to *Setaphora truncata* described from Celebes and Frores, especially in the shape of seventh peraeonal somite and shape of the endopodite of male first pleopod, but the former is separated from the latter in the following features:(1) shorter pleon, (2) shorter male second pleopod, (3) shorter uropod and (4) smaller body size.

Setaphora murotoensis n. sp.

(Jap. name ; Muroto -mori-warajimushi, new)

Figs. 70 and 71

Material examined 5♂♂ (1♂ holotype, 4.1mm in body length and 4♂♂ paratypes, 3.5～5.0mm in body length) and 7♀♀ (1♀allotype, 5.3mm in body length and 6♀♀ paratypes, 4.0～5.2mm in body length),coll. Jun-ichi Aoki, Mar. 6, 1980 ; 1♂ 4♀♀, Sakiyama, Muroto-City, Kochi Pref., coll. Jun-ichi Aoki, Mar. 6, 1980 ; 1♂ 2♀♀ Tachibana-chô, Anan City, Tokushima Pref., coll. Hiroshi Harada ; 7♀♀, Gotanda, Kawamai, Yawatahama-City, Ehime Pref., coll. Shingo Tanaka, Oct. 5, 1981 ; 4♂♂ 6♀♀, Somedake, Hondo City, Kumamoto Pref., coll. Noboru Nunomura, June 5, 1985 ; 1♀, Einoo-tsurugi-jinja, Shiranui-chô, Uto-gun, Kumamoto Pref., coll. Harada Aug. 3, 1981 ; 1♂ 1♀,Kikaigaura, Amakusa-chô, Amakusa-gun, Kumamoto Pref, coll. Jun-ichi Aoki, Dec. 14, 1962.; Type series is deposited as follows : holotype (TOYA-Cr-5464), allotype (TOYA-Cr-5465) and 7 paratypes (TOYA-Cr-5466～5472) at the Toyama Science Museum, 1 paratype (OMNH-Ar-3001) at the Osaka Museum of Natural Histry and 1 paratype (YCM-CI-916) at the Yokosuka City Museum and 1 parataype (NSMT-Cr-9225) at the National Science Museum, Tokyo.

Description : Body 2.2 times as long as wide. Body colour blackish with paler irregular patterns. First and seventh peraeonal somites somewhat longer than the other peraeonal somites. Each pleonal somite subequal in length. Pleotelson truncated. Eyes mediocre ; each eye composed of 20~24 ocelli. Noduli lateralis on peraeonite II is somewhat remote (Fig. 71 K).

First antenna (Fig. 71 A) ; first segment big ; second segment short ; third segment conical and with 2 aesthetascs at the tip.

Second antenna (Fig. 71 B) long and reaches the anterior margin of the fifth peraeonal somite ; first segment shot ; second and third segments rectangular ; fourth segment 2.2 times as long as the third ; fifth segment 2.7 times as long as the third.Flagellum almost as long as the fifth peduncular segment and its mutual length is 3 : 2: 2.

Right mandible (Fig.71 C) ; pars incisiva 4-headed ; lacinia mobilis not chitinized and single -toothed ; a hairy bristle behind lacinia mobilis ; processus molaris vestigial and with

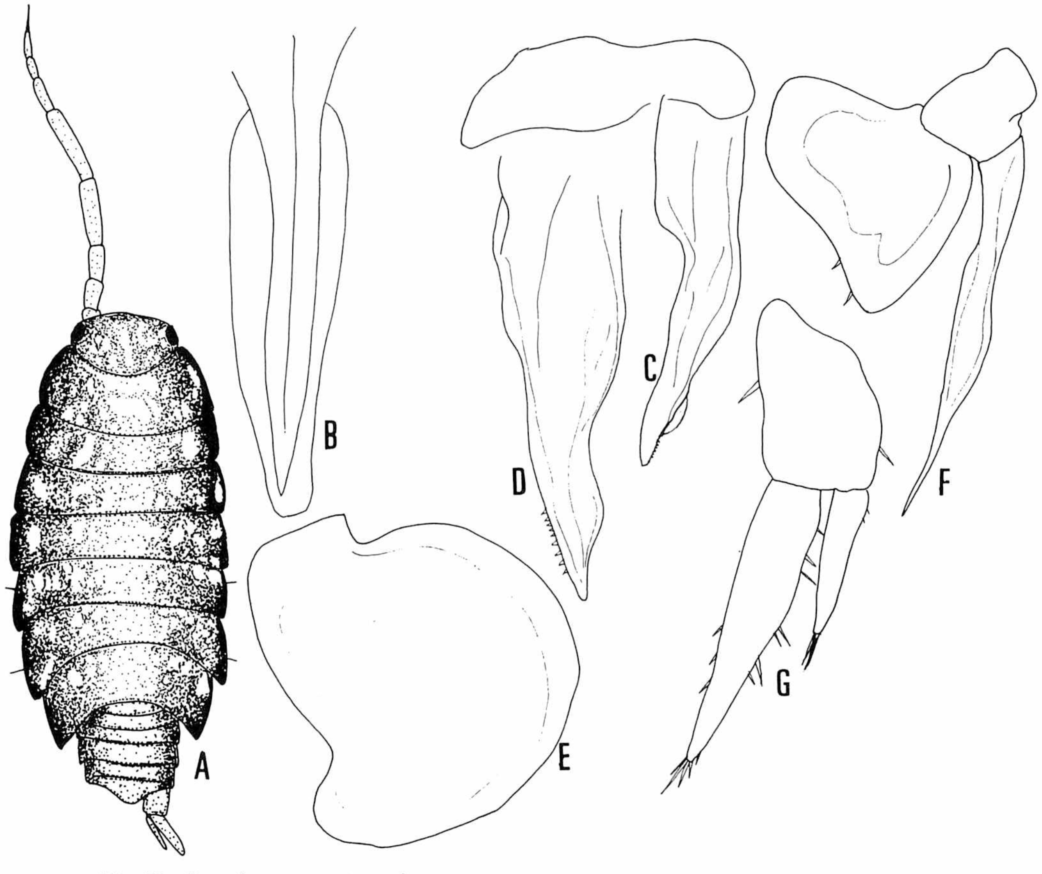

Fig.70. *Setaphora murotoensis* n. sp.
A. Dorsal view; B. Penes; C. Endopodite of male first pleopod; D. Endopodite of another male specimen; E. Exopodite of male first pleopod; F. Male second pleopod; G. Uropod(A-C, E-G: Holotype male, D: Paratype male).

a long bristle.

Left mandible(Fig. 71 D) ; pars incisiva composed of 3 teeth ; lacinia mobilis chitinized and single-toothed ; 2 hairy bristles behind lacinia mobilis ; processus molaris vestigial with hairy bristle.

First maxilla (Fig. 71 E) ; outer lobe with 10 teeth at the tip.

Maxilliped (Fig. 71 F) slender ;endite rectangular and with 2 stout spines on the distal margin ; palp slender and tapering towards the tip and bears 3 groups of setae.

First peraeopod (Fig. 71 G) ; rather short ; basis rectangular ; ischium, merus and carpus rectangular but narrower than basis and with 4～7setae on inner margin ; propodus slender with about a dozen of setae and 2～3 longer setae on inner margin.

Second to seventh peraeopods (Fig. 71 H-I) ; basis rectangular ; ischium rather short ; merus and carpus longer than ischium and with 6～8 setae on inner margin ; propodus very long and a series of 6～7 setae on inner margin.

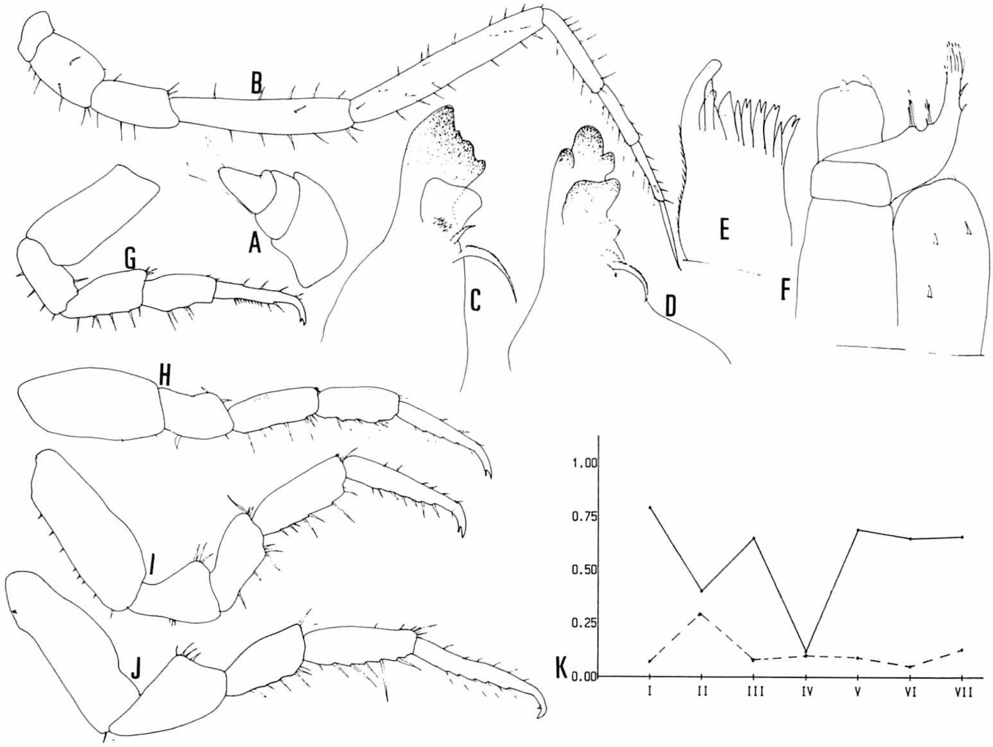

Fig.71. *Setaphora murotoensis* n. sp.
A. First antenna; B. Second antenna; C. Right mandible; D. Left mandible; E. Outer lobe of first maxilla; F.Maxilliped; G. First peraeopod; H-J. Fifth to seventh peraeopods; K. Position of noduli lateralis, a full line shows b/c and a broken line shows d/c (All: Holotype male).

Penes (Fig. 70 B) club-shaped.

Male first pleopod(Fig. 70 C-E) ; endopodite short and with 9∼10 small spines on inner margin ; exopodite round with a small concavity on inner margin.

Male second pleopod (Fig. 70 F) endopodite long and only slightly recurved outerwards : exopodite triangular with 2 spines on outer margin.

Uropod (Fig.70 G) ; basis rather stout ; endopodite narrow ; exopodite twice as long as the endopodite.

Remarks : This species is closely allied to *Setaphora angusticauda* BUDDE-LUND,1885 originally described from Borneo and South China, in the shape of exopodite of male first exopodite, but the former is separated from the latter in the following features : (1) shorter body, (2) less numerous ocelli of eyes. The present new species is separated from *Setaphora japonica* already described in this paper but,it is separated from *japonica* in the following features: (1) shape exopodite of male first pleopod,(2) noduli lateralis only on peraeonite II is slightly remote, (3) shape of penes, and (4) shape of posterior part of pleotelson.

***Setaphora okinawaensis* n. sp.**

(Jap. name : Okinawa-mori-warajimushi, new)

Figs.72 and 73

Material examined : 3♂♂(1♂ holotype, 4.0 mm in body length and 2♂♂ paratypes, 4.0∼4.4 mm in body length) and 14♀♀(1♀ allotype, 5.3 mm in body length and 13♀♀ paratypes, 4.3∼4.9 mm body length), Sueyoshi, Naha City, Okinawa Island, Okinawa Pref., coll. Yasufumi Azama,1976 ;1♂ 5♀♀, Okuma Beach, Henntona, Kunigami-son, Okinawa Island, Okinawa Pref., coll. Hiroshi Morino, Aug.7,1978 ; 5♂♂ 15♀♀, Ton-zaki, Tatsugou-son, coll. 1♂ 5♀♀, Nakanoshima Island, Tokara Islands,Kagoshoima Pref., coll. Hiroshi Suzuki, Nov. 5,1981 ; 2♂♂ 5♀♀,Sakai, Nakatane-chô, Tanegashima Island, Kagoshima Pref.,coll. Noboru Nunomura, June 30, 1981. Type series is deposited as follows : holotype (TOYA-Cr-5481), allotype (TOYA-Cr-5482) and 8 paratypes (TOYA-Cr-5483∼5490) at the Toyama Science Museum ; 3 paratypes (OMNH-Ar-3002∼3004) at the Osaka Museum of Natural History, 2 paratypes (YCM-CI-917∼918) at the Yokosuka City Museum, 2 paratypes (NSMT-Cr-9226) at the National Science Museum, Tokyo.

Description : Body rather short, about 1.8 times as long as wide. All the peraeonal somites subequal in length. Body colour blackish brown with paler irregular patterns on dorsal surface. Eyes mediocre in size, each eye composed of 20 ocelli. Noduli lateralis on peraeonites II is remote (Fig. 73 H).

First antenna (Fig.73 A) ; first segment big and almost square ; second segment short ; terminal segment conical with 2∼3 aesthetascs at the tip.

Second antenna (Fig.73 B) reaches the posterior part of the third peraeonal somite. Flagellum 3-segmented ; first segment somewhat longer than the second ; the second and third segments are subequal in length.

Right mandible (Fig.72 B) ; pars incisiva 3-headed ; lacinia mobilis not chitinized and single-toothed ; 2 hairy bristles behind lacinia mobilis ; processus molaris is represented only by its relatively long bristle.

Left mandible (Fig.72 C) ; pars incisiva weakly 3-headed ; lacinia mobilis weakly 2-headed ; other features are as the right mandible.

First maxilla (Fig.72 D) ; outer lobe with 10 teeth at the tip ; outer four teeth simple type.

Second maxilla rather broad.

Maxilliped (Fig.72 E); endite rectangular but distal part somewhat round, with only several setae on distal margin ; palp rather short with 3 groups of setae.

First peraeopod (Fig.73 C); basis rectangular and stout ; ischium with an only slightly

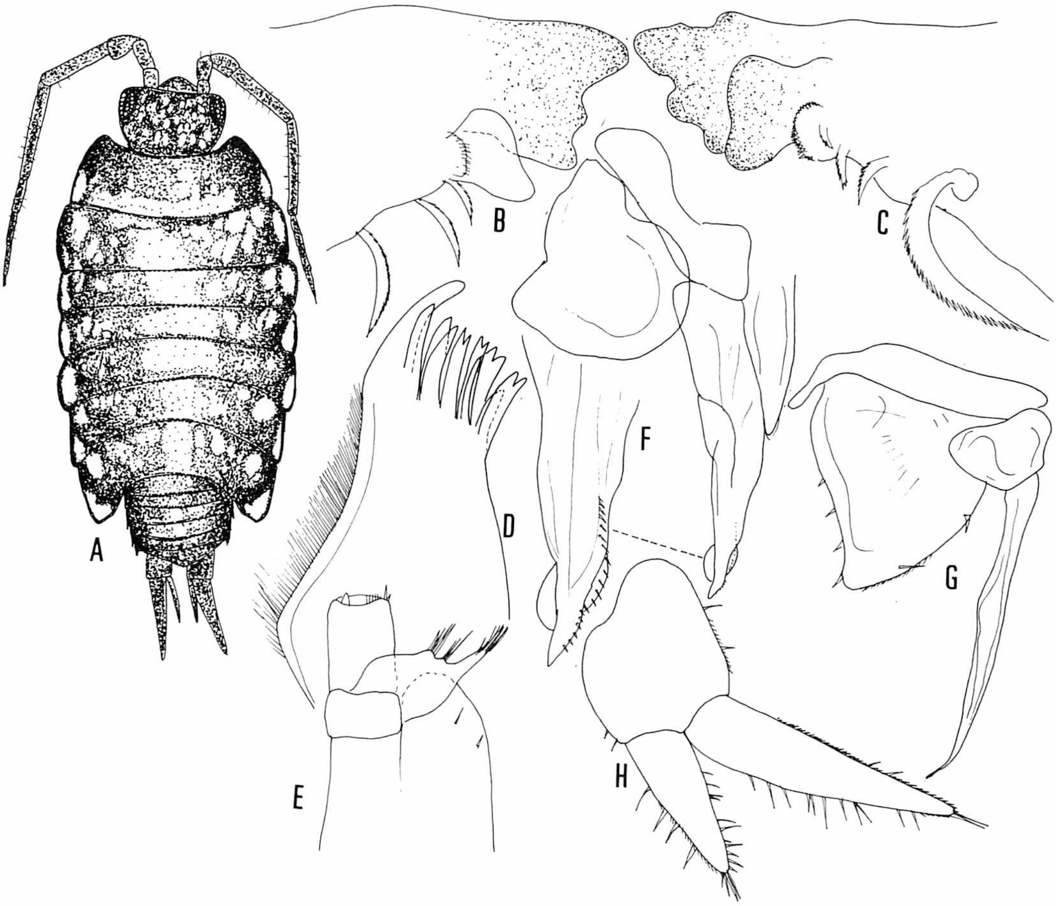

Fig.72. *Setaphora okinawaensis* n. sp.
A. Dorsal view; B. Right mandible; C.Left mandible; D. First maxilla; E. Maxilliped; F. Penes and male first pleopod; G. Male second pleopod; H. Uropod (All: Holotype male).

convex sternal margin ; merus rectangular with 9～10 seate on inner margin ; carpus rectangular with a long seta and 5～6 shorter setae on inner margin ; propodus long with 5～6 setae and 11～13 smaller setae on the basal part of inner margin.

Second to third peraeopods (Fig.73 D) similar to the first peraeopod but a little longer than the first and without a row of small setae on the basal part of propodus.

Fifth to seventh peraeopods (Fig.73 E-G) similar in shape ; basis oblong ; ischium with a slightly convex sternal margin ; merus with a weakly sternal margin ; carpus rectangular ; propodus long, almost 7 times as long as wide.

Penes (Fig.72 F) fusiform.

Male first pleopod (Fig.72 F); exopodite semicircular, with a shallow concavity on outer margin ; endopodite rather stout, with a relatively large subapical inner lobe and outer lobe and bearing a series of more than 19 denticles at the tip.

Male second pleopod (Fig.72 G); exopodite triangular with 4 spines on outer margin and 2 spines a series of fine hair on inner margin ; endopodite long.

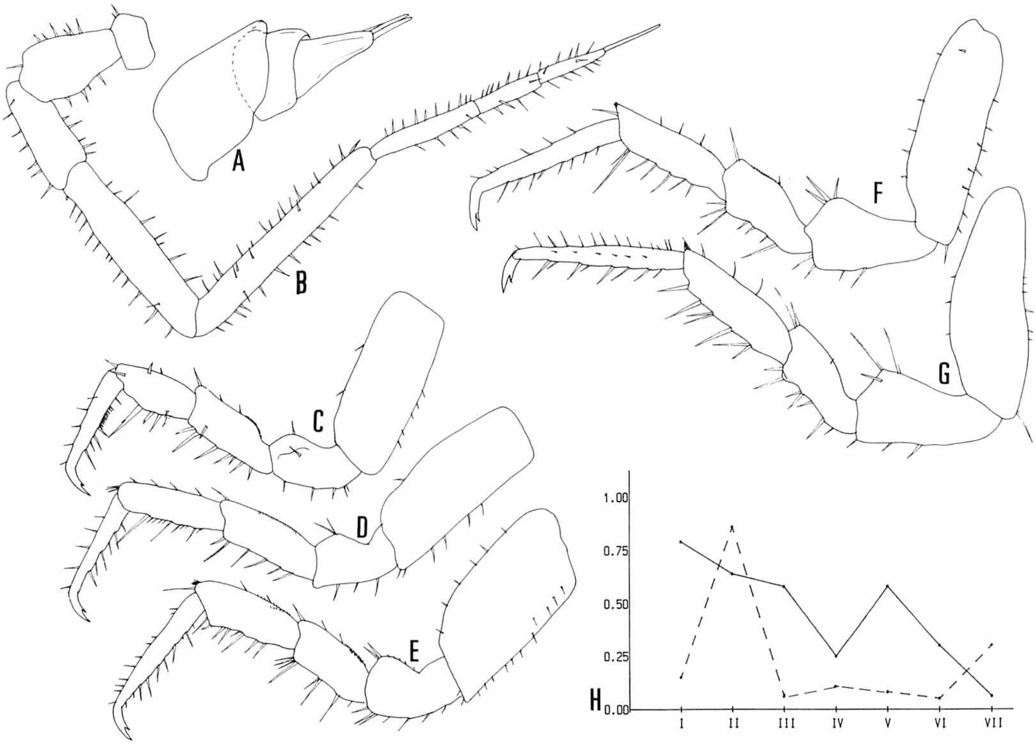

Fig.73. *Setaphora okinawaensis* n. sp.
A. First antenna; B. Second antenna; C-D. First and second peraeopods; E-G. Fifth to seventh peraeopods; H. Position of noduli lateralis, a full line shows b/c and broken line shows d/c (All: Holotype male).

Uropod (Fig.72 H) rather short and robust; endopodite almost as long as basis; exopodite 1.7 times as long as endopodite.

Remarks : The present new species is allied to *Setaphora murotoensis* already described in this paper but the former is separated from the latter in the following features; (1) robuster body shape, (2) presence of a lappet-like structure on the endopodite of male first pleopod, (3) more numerous denticles of the same and (4) noduli lateralis on peraeopod II remarkably remote.

Setaphora daitoensis **n. sp.**

(Jap. name : Daitô-mori-warajimushi, new)

Figs.74 and 75

Material examined : 5♂♂(1♂ holotype, 5.3 mm in body length and 4♂♂ paratypes, 3.2 ~4.6 mm in body length) and 8♀♀(1♀ allotype, 4.9 mm in body length and 7 ♀♀ paratypes, 4.6~5.2 mm in body length), Minami-daitô Island, Okinawa Pref.,coll Jun-ichi Aoki, Oct. 8, 1978. Type series is deposited as follows: holotype (TOYA-Cr-5391), allotype (TOYA-Cr-

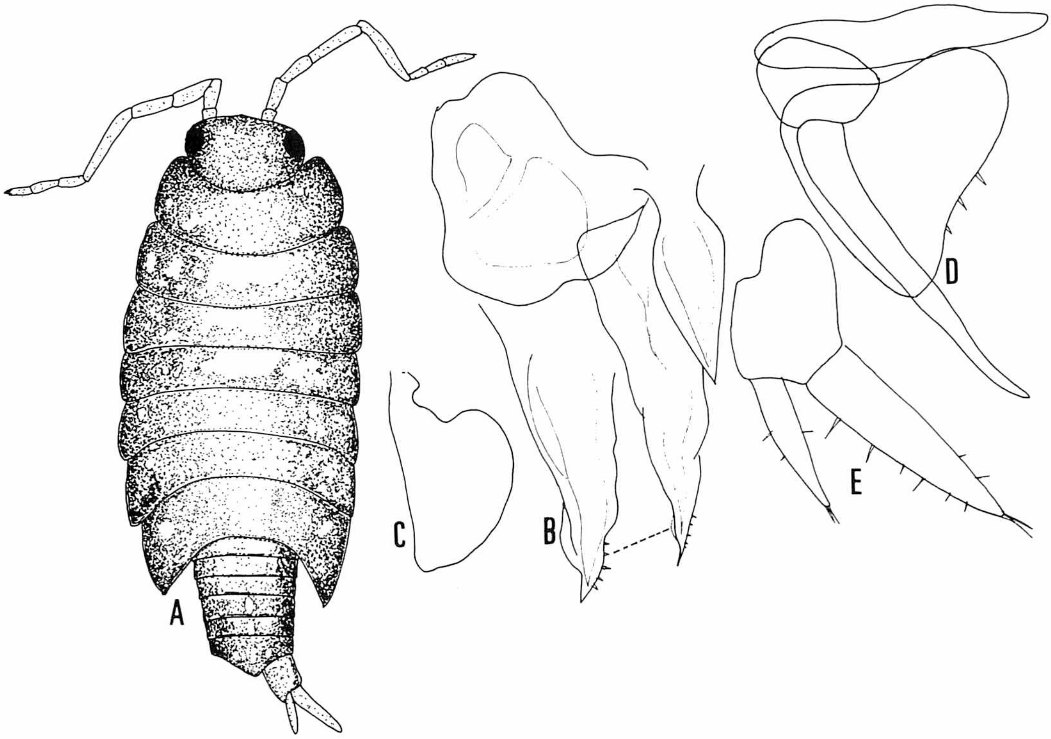

Fig.74. *Setaphora daitoensis* n. sp.
A. Dorsal view; B. Penes and male first pleopod; C. another type of male first pleopod in the same population; D. Male second pleopod; E. Uropod (A-B, D-E: Holotype male; C: Paratype male).

5392) and 5 paratypes (TOYA-Cr-5393～5397) at the Toyama Science Museum, 2 paratypes (OMNH-Ar-2988～2989) at the Osaka Museum of Natural History, 2 paratypes (YCM-CI-899 ～900) at the Yokosuka City Museum, and 2 paratypes (NSMT-Cr-9219) at the National Science Museum, Tokyo.

Description : Body 2.3 times as long as wide. Body colour blackish with paler irregular patterns. Cephalon round. Eyes rather big, each eye with 20～22 ocelli. Each peraeonal somite subequal in length. Each pleonal somite also subequal in length. Noduli lateralis on peraeonite II is very remote (Fig.75 J).

First antenna (Fig. 75 A) 3-segmented; first segment oblong; second segment short; terminal segment narrow and with 3 aesthetascs.

Second antenna (Fig. 75 B); first segment small; second and third segments rectangular; fourth segment twice as long as the third; fifth segment 1.3 times as long as the fourth. Flagellum 3-segmented and nearly as long as the fifth peduncular segment; each segment is

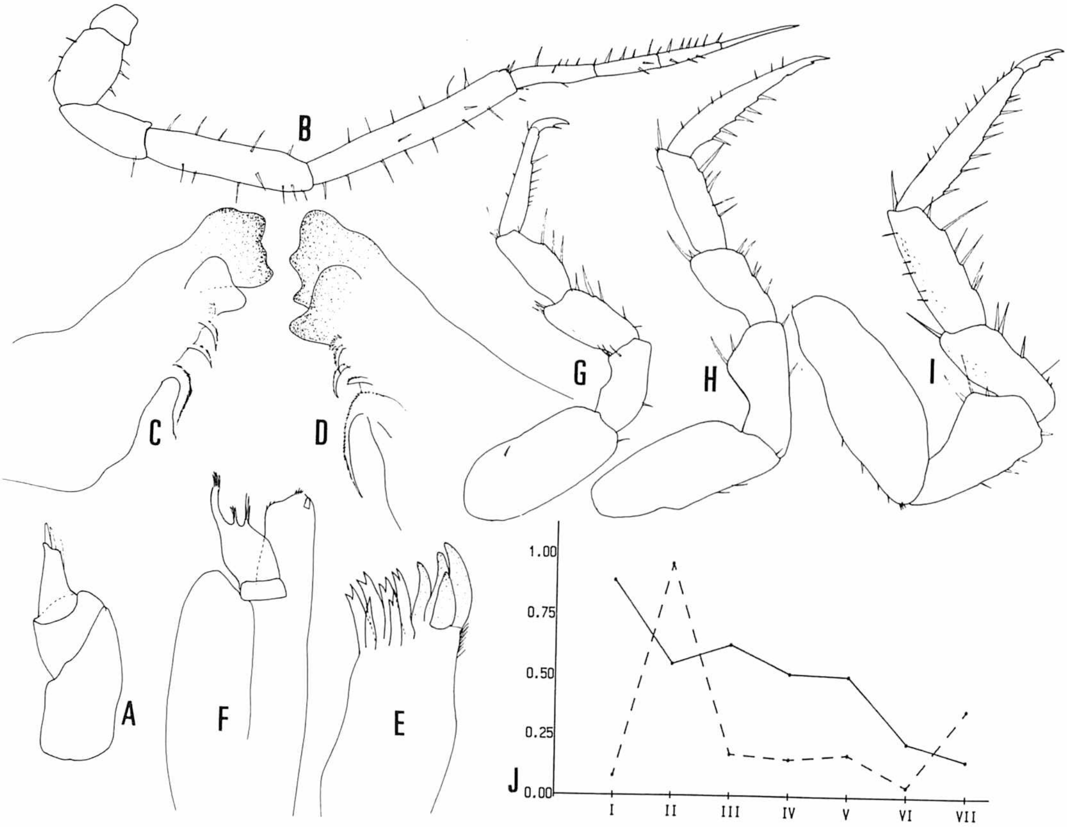

Fig.75. *Setaphora daitoensis* n. sp.
A. First antenna; B. Second antenna; C. Right mandible; D. Left mandible; E. Outer lobe of first maxilla; F. Maxilliped; G. First peraeopod; H-I, Sixth to seventh peraeopods; J. Position of noduli lateralis, a full shows b/c and a broken line d/c (All: Holotype male).

subequal in length.

Right mandible (Fig. 75 C) ; pars incisiva 3-or 4-headed ; lacinia mobilis not chitinized and composed of a single tooth ; 2 hairy bristles behind lacinia mobilis ; processus mobilis is represented only by its hairy bristle.

Left mandible (Fig. 75 D) ; pars incisiva weakly 4-headed ; lacinia mobilis 2-headed ; other features are as those of right mandible.

First maxilla (Fig. 75 E) ; outer lobe with 10 teeth at the tip ; outer 4 and second inner one are simple type and others are bifid type.

Second maxilla normal.

Maxilliped (Fig. 75 F) ; endite rectangular with a stout spine and several short setae at distal margin ; palp slender with 3 groups of setae.

First peraeopod (Fig. 75 G) ; basis oblong ; ischium rectangular ; merus rectangular ; carpus rectangular with swollen part ; propodus long with 7～8 setae on inner margin.

Sixth peraeopod (Fig. 75 H) ; basis oblong ; ischium rectangular with a sternal margin ; merus triangular ; carpus rectangular with 5～6 setae on inner margin ; propodus long with 5～6 setae on inner margin.

Seventh peraeopod (Fig. 75 I) ; basis long ; ischium with a sternal margin ; merus rectangular with 6～7 setae on inner margin ; carpus rectangular and longer than merus, and with 6～7 setae on inner margin ; propodus 8～9 setae on inner margin.

Penes (Fig. 74 B) lanceolate-oblong and its tip is acuminate.

Male first pleopod (Fig. 74 B) ; exopodite deltoid but a male specimen bearing an aberrant shape was found from the same populatioin (Fig. 74 C) ; endopodite stout with 5～6 denticles on inner distal margin and a thin lappet-like structure on distal outer part.

Male second pleopod (Fig. 74 D) ; stylus relatively short ; exopodite deltoid with 3 spines on outer margin.

Uropod (Fig. 74 E) rather short and stout ; endopodite narrow-lanceolate, exopodite 1.5 times as long as the endopodite.

Remarks : The present new species is most closely allied to *Setaphora okinawaensis* described in this paper, but the former is separated from the latter in the following features : (1) longer body,(2) shape of penes, (3) shape of both lobes of male first pleopod and (4) shape of both lobes of male second pleopod.

Setaphora boninensis **n. sp.**

(Jap. name : Ogasawara-mori-warajimushi, new)

Figs. 76 and 77

Material examined : 13♂♂(1♂ holotype, 6.2 mm in body length and 12♂♂ paratypes,3.3～5.4 mm in body length) and 15♀♀(1♀ allotype, 5.2 mm in body length and 14♀♀ paratypes, 3.5～5.1 mm in body length), forest of *Leucaena glauca*, south of Miyanohama, Chichi-jima Islands, Bonin Islands, Tokyo Pref., coll. Jun-ichi Aoki, July 2, 1977. Type series is deposited as follows : holotype (TOYA-Cr-5503), allotype (TOYA-Cr-5504) and 11 paratypes (TOYA-Cr-5505~5515) at the Toyama Science Museum, 6 paratypes (OMNH-Ar-3006~3011) at the Osaka Museum of Natural History, 3 paratypes (YCM-CI-920~922) at the Yokosuka City Museum and 6 paratypes (NSMT-Cr-9228) at the National Science Museum, Tokyo.

Description : Body rather slender, about 2.5 times as long as wide. Body colour blackish brown with paler irregular patterns on dorsal surfaces. Each peraeonal somite is subequal in length. Posterolateral angles of peraeonal somites I-IV almost rectangular but those of peraeonal somites V-VII protruded posteriorly, especially remarkable in peraeonal somite VII. Eyes rather large, each eye composed of 26~28 ocelli. Each pleonal somite subequal in length. Pleotelson triangular. Noduli lateralis of peraeonite II is remote (Fig. 77 G).

First antenna (Fig. 76 B) composed of 3-segmented ; first and second segments almost square ; terminal segment tapering towards the tip and bears 5 aesthetascs.

Second antenna (Fig. 76 C), reaching the posterior part of the third peraeonal somite ;

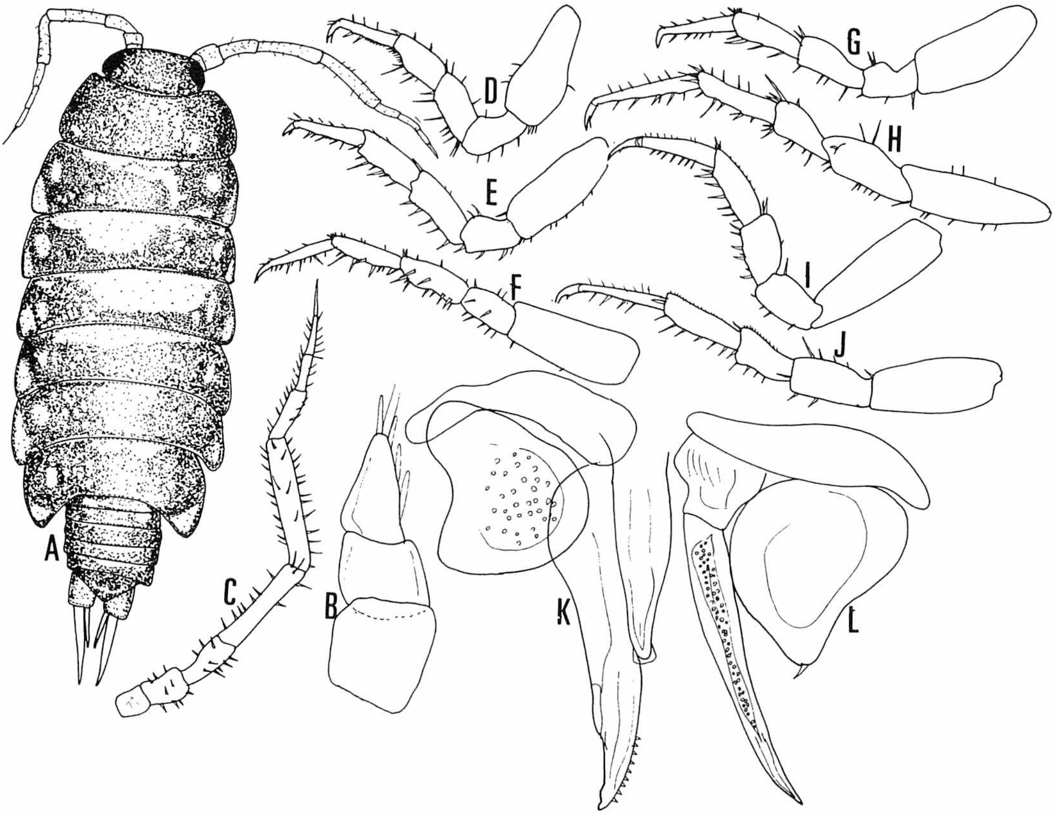

Fig.76. *Setaphora boninensis* n. sp.
A. Dorsal view; B, First antenna; C. Second antenna; D-J. First to Seventh peraeopods; K. Pennes and male first pleopod; L. Male second pleopod (All: Holotype male).

first segment small and square ; second segment also almost square but with many spines ; third segment a little longer than the second ; fourth segment twice as long as the third ; fifth segment 1.2 times as long as the fourth. Flagellum as long as the fifth peduncular segment ; mutual length of 3 segments is 10 : 7 : 7.

Right mandible (Fig. 77 A) ; pars incisiva 3-headed ; lacinia mobilis is not chitinized and 2-headed ; 3 hairy bristles behind lacinia mobilis ; processus molaris is represented only by a small process bearing a hairy bristle.

Left mandible (Fig. 77 B) ; pars incisiva 2-headed ; lacinia mobilis 2-headed ; a hairy bristle behind lacinia mobilis ; processus molaris is as the right mandible.

First maxilla (Fig. 77 C) ; outer lobe with 10 teeth at the tip ; outer 4 are simple and inner 4 are bifid but 6th and 9th are simple.

Second maxilla (Fig. 77 D) normal.

Maxilliped (Fig. 77 E) ; endite rectangular and covered with many small setae ; palp with 3 groups of setae.

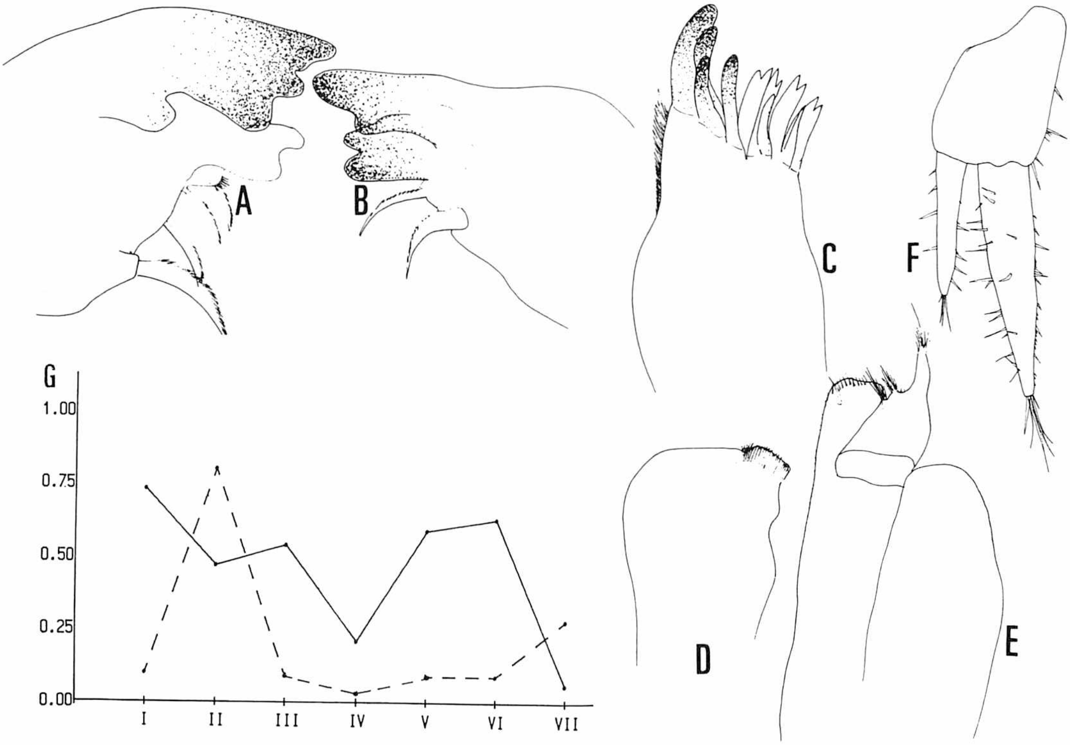

Fig.77. *Setaphora boninensis* n. sp.

A. Right mandible; B. Left mandible; C. Outer lobe of first maxilla; D. Second maxilla: E. Maxilliped; F. Uropod; G. Position of noduli lateralis, a full lines shows b/c and broken line shows d/c (All: Holotype male).

First peraeopod (Fig. 76 D) ; basis oblong ; ischium and merus rectangular ; carpus rectangular and with 4〜5 setae, a series of short setae, and a low protrution on inner margin ; propodus relatively short.

Second to third peraeopods (Fig. 76 E-J) ; basis rectangular ; ischium rectangular and without remarkable sternal margin ; merus and carpus rectangular ; propodus long. Fourth to seventh peraeopods similar to the preceding ones, but somewhat longer than those.

Penes (Fig. 76 K) narrow-lanceolate with rounded tip.

Male first pleopod (Fig. 76 K) ; exopodite semicircular ; endopodite almost straight with 9〜10 denticles on distal inner border.

Male second pleopod (Fig. 76 L) ; exopodite round with a spine at the tip ; stylus almost straight.

Uropod (Fig. 77 F) ; basis rectangular ; exopodite 1.8 times as long as endopodite.

Remarks :The present new species is most closely allied to *Setaphora murotoensis* already described in this paper but the former is separated from the latter in the following features : (1) remarkably remote noduli lateralis on peraeonite II ,(2) longer uropod, (3) shorter stylus on male second pleopod and (4) setose endite of maxilliped.

***Setaphora watanabei* n. sp.**

(Jap. name : Watanabe-mori-warajimushi, new)

Figs.78 and 79

Material examined : 7 ♂ ♂ (1 ♂ holotype, 5.2 mm in body length and 6 ♂ ♂ paratypes, 3.4〜6.3 mm in body length and 5 ♀ ♀ (1 ♀ allotype, 7.3 mm in body length and 4 ♀ ♀ paratypes, 4.5〜5.2 mm in body length, Experimental Forest of the Kyoto University, Shirahama-chô, Wakayama Pref., coll. Hiroyuki Watanabe, Feb. 7, 1975. Type series is deposited as follows : holotype (TOYA-Cr-5348), allotype (TOYA-Cr-5349), and 4 paratypes (TOYA-5350 〜5353) at the Toyama Science Museum, 2 paratypes (OMNH-Ar-2976〜2977) at the Osaka Museum of Natural History, 2 paratypes (YCM-CI-899〜890) at the Yokosuka City Museum, and 2 paratypes (NSMT-Cr-9214) at the National Science Museum, Tokyo.

Description : Body rather slender about 2.7 times as long as wide. Body colour almost white in alcohol. Eyes rather big, each eye composed of about 25 ocelli. Pleotelson triangular. Noduli lateralis on peraeonite II is remote (Fig. 79 L).

First antenna (Fig. 79 A) 3-segmented : first segment big and partly covered with the second peduncular segment ; second segment short ; third segment oblong and tapering towards the tip.

Second antenna (Fig. 79 B) reaching the posterior part of second peraeonal somite. First segment short ; second segment square ; third segment rectangular, twice as long as the width ; fourth segment twice longer than the third ; fifth segment 1.3 times longer than the fourth. Flagellum 3-segmented, each segment is subequal in length ; terminal segment with a relatively long seta.

Right mandible (Fig. 79 C); pars incisiva composed of a single strong tooth; lacinia mobilis not chitinized and single-headed; a group of hair and 2 hairy bristles behind lacinia mobilis; processus molaris with a long hairy bristle.

Left mandible (Fig. 79 D); pars incisiva 3-headed; lacinia mobilis with 2 hairy setae and processus molaris is as the right one.

First maxilla (Fig.79 E) with 10 teeth at the tip of outer lobe; outer four teeth entire and longer; 6th and 9th teeth are also entire but thin; other teeth bifid. Inner lobe with 2 stout hairy bristles at the tip.

Second maxilla (Fig. 79 F) rather thin with a group of many setae.

Maxilliped (Fig. 78 G) rather slender; endite entire with 2 setae near the tip; palp, slender and tapering towards the tip, bears 3 groups of setae.

First peraeopod (Fig. 78 B) rather short; basis rectangular and rather stout; ischium and merus rectangular but narrower than basis, and bears several setae on inner margin; carpus rectangular with longer setae on inner margin and a group of small hair; propodus slender with a series of setae on inner margin.

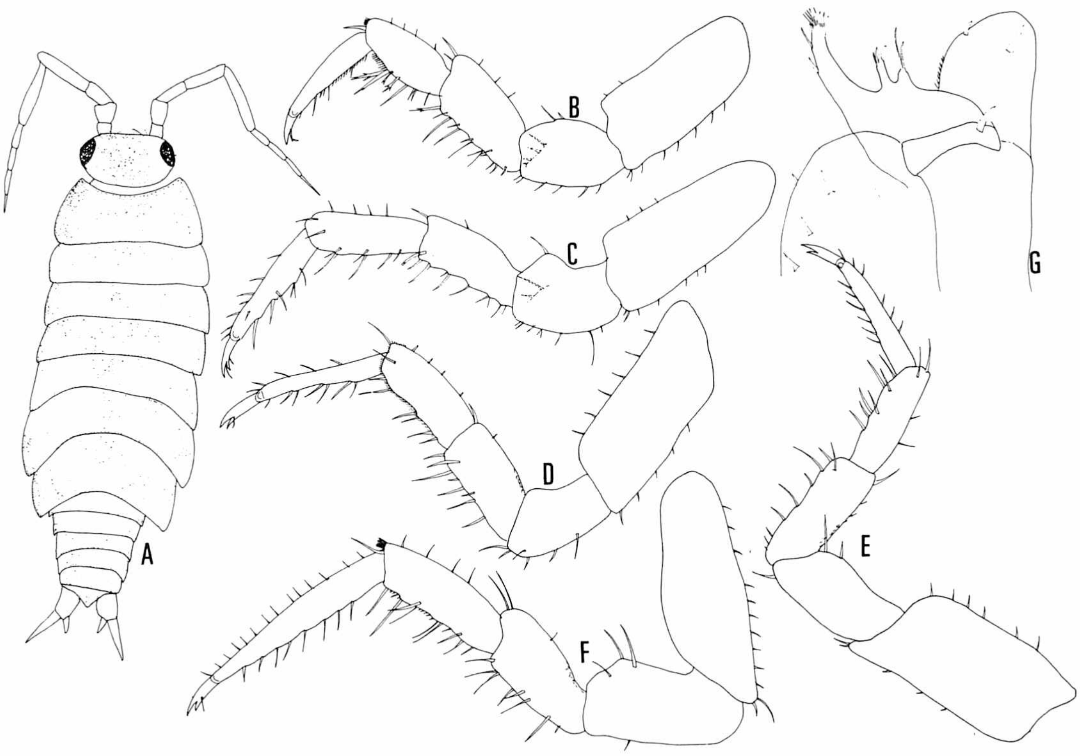

Fig.78. *Setaphora watanabei* n. sp.
A. Dorsal view; B-E. First to fourth peraeopods; F. Seventh peraeopod; G. Maxilliped(A-F: Holotype male, G. Paratype male).

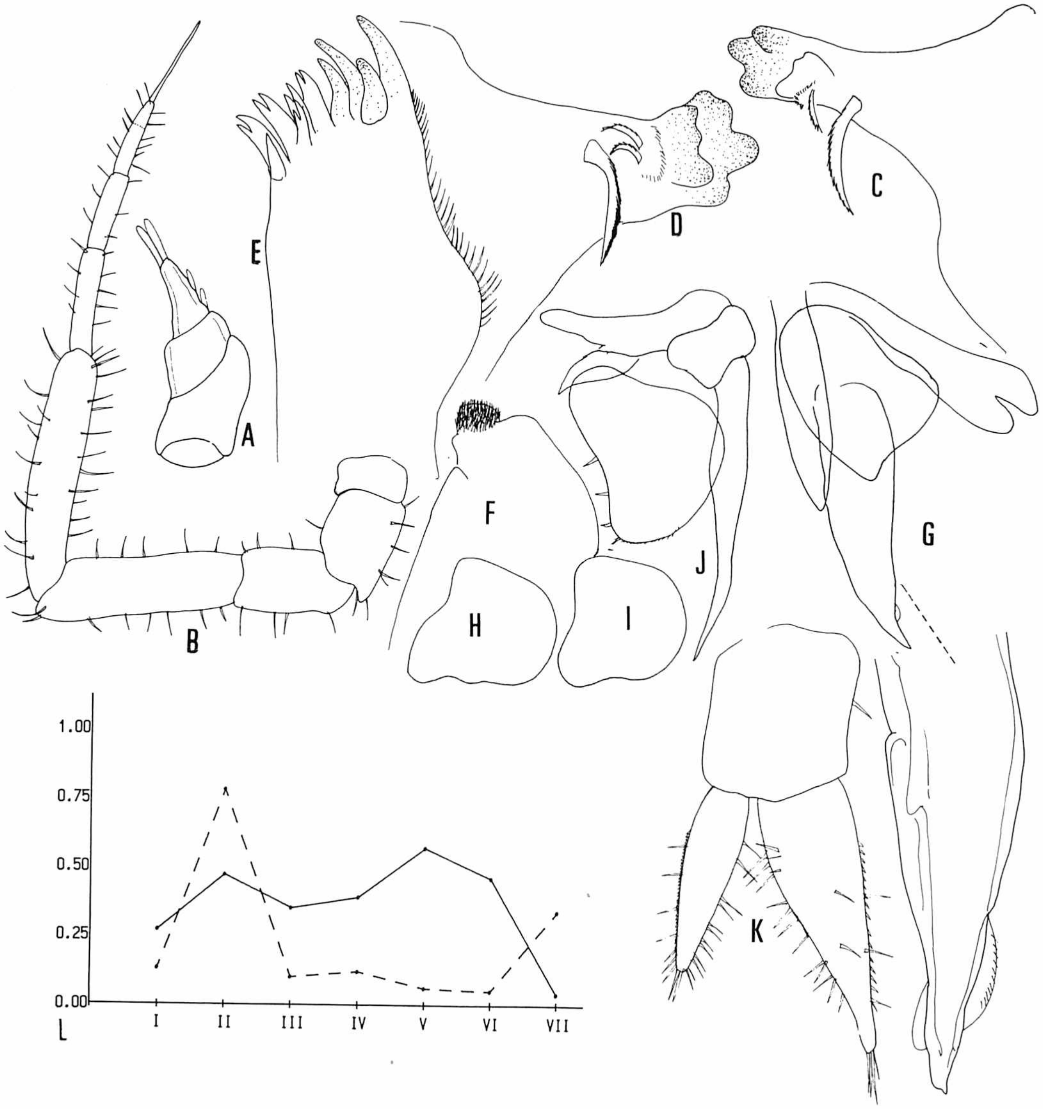
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Fig.79. *Setaphora watanabei* n. sp.

A. First antenna; B. Second antenna; C. Right mandible; D. Left mandible; E. First maxilla; F. Second maxilla; G. Penes and male first pleopod; H and I. Exopodite of male first pleopod of other specimens collected in the same population; J. Male second pleopod, K. Uropod; L. Position of noduli lateralis, a full line shows b/c and a broken line shows d/c (A-G, J-L: Holotype male, I-J: Paratype male).

Second to seventh peraeopods (Fig.78 C-F) similar in shape ; basis rectangular ischium almost square ; merus and carpus rectangular with several longer setae and several shorter setae on inner margin ; propodus slender.

Penes (Fig. 79 G) fusiform.

Male first pleopod (Figs. 79 G-I) ; endopodite stout, tapering towards the tip, and bears 10 small denticles on the outer margin near the tip and a small semicircular lappet-like protuberence on inner margin near the tip ; exopodite roundly triangular with a very shallow concavity on outer margin.

Male second pleopod (Fig. 79 J) ; endopodite long and only slightly recurved outerwards.

Uropod (Fig. 79 K) rather stout ; basis rectangular ; endopodite narrow and rather short ; exopodite rather stout and 1.8 times as long as the endopodite.

Remarks : The present new species is closely allied to *Setaphora daitoensis* already described in this paper, but this species is separated from *daitoensis* in the following features : (1) shape of exopodite of male first pleopod and (2) shape of penes.This species is also allied to *Setaphora murotensis* described in this paper, but is separated *murotensis* in having triangular exopodite of male first pleopod and remote position of noduli lateralis on peraeonite II.

***Setaphora shibatai* n. sp.**

(Jap. name : Shibata-mori-warajimushi, new)

Fig.80

Material examined : 3♂♂(1♂♂ holotype, 4.7 mm in body length and 2♂♂ paratypes, 3.7～4.9 mm in body length) and 4♀♀(1♀ allotype, 6.9 mm in body length and 3♀♀ paratypes, 4.8～5.9 mm in body length), under the litter, Kushiken, China-chô, Okinoerabu-Island, Kagoshima Pref., coll. Yasuhiko Shibata, July 28, 1964. Type series is deposited as follows : holotype (TOYA-Cr-5345), allotype (TOYA-Cr-5346) and 1 paratype (TOYA-Cr-5347) at the Toyama Science Museum ; 2 paratypes (OMNH-Ar-2974～2975) at the Osaka Museum of Natural History ; 1 paratype (YCM-CI-888) at the Yokosuka City Museum and 1 paratype (NSMT-Cr-9213) at the National Science Museum, Tokyo.

Description : Body rather oblong 2.5 times as long as wide. Body colour white in alcohol. Hindolateral margins of the first to fourth peraeonal somites almost rectangular, but those of the fifth to seventh peraeopods acutely protruded backwards. Anterior margin of cephalon straight. Eyes rather big, each with 22～23 ocelli. Noduli lateralis as Fig. 80.0.

First antenna (Fig.80 B) 3-segmented ; first segment oblong ; second segment short ; terminal segment rectangular with 2 long aesthetascs at the tip and 8～9 aesthetascs near the middle part.

Second antenna (Fig.80 C), reaches posterior part of fourth peraeonal somite ; first segment small ; second segment square ; third segment twice as long as wide ; fourth segment twice as long as the third ; fifth segment 1.2 times as long as the fourth ; flagellum 3-segmented and as long as the fifth peduncular segment ; each flagellar segment is subequal in length.

Right mandible (Fig.80 D) ; pars incisiva composed of a single tooth ; lacinia mobilis not chitinized and composed of a single broad tooth ; a hairy bristle behind lacinia mobilis ; prcessus molaris is represented by a tuft of plumose setae on a basal process.

Left mandible (Fig.80 E) ; pars incisiva 2-headed ; lacinia mobilis also 2-headed ; 2 hairy bristles behind lacinia mobilis ; processus molaris is represented only by its stout hairy bristle.

First maxilla (Fig.80 F) ; outer lobe with 10 setae at the tip.

Second maxilla (Fig.80 G) normal.

Maxilliped (Fig.80 H) ; endite rectangular and are with only 2 stout spines.

Seventh peraeopod (Fig.80 I) ; basis oblong ; ischium with a sternal margin ; merus triangular ; carpus rectangular with 8∼9 setae on inner margin and with a long seta and a group of many fine setae at outer distal margin ; propodus long with 7∼8 setae on inner margin.

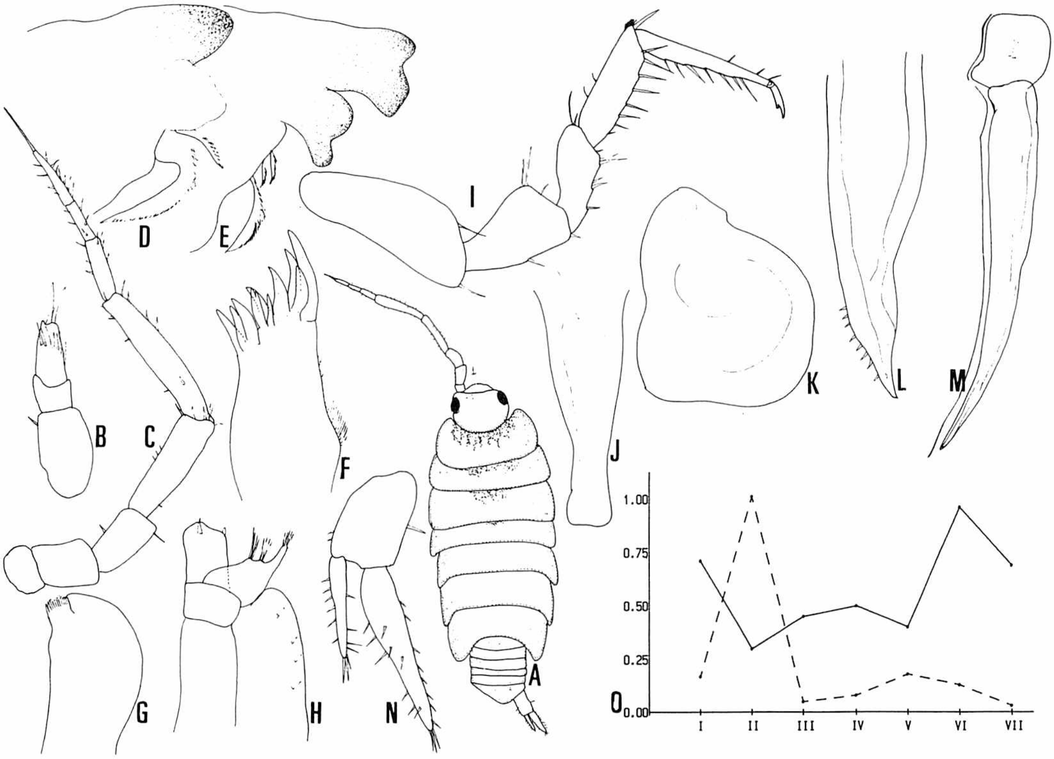

Fig.80. *Setaphora shibatai* n. sp.

A. Dorsal view; B. First antenna; C. Second antenna; D. Right mandible; E. Left mandible; F. Outer lobe of first maxilla; G. Second maxilla; H. Maxilliped; I. Seventh peraeopod: J. Penes; K. Exopodite of male first pleopod; L. Endopodite of the same; M. Stylus of the male second pleopod; N. Uropod; O. Position of noduli lateralis, a full line shows b/c and a broken line shows d/c (A, D-O: Holotype male, B-C: Paratype male).

Penes (Fig.80 J) rectangular and truncated at the tip.

Male first pleopod ; exopodite (Fig.80 K) rounded and with a very shallow concavity on inner margin ; endopodite (Fig.80 L) almost straight and with 7~8 small denticles on inner margin of the distal part.

Male second pleopod (Fig.80 M) ; stylus almost straight but rather short.

Uropod (Fig.80 N) ; basis rectangular ; endopodite narrow ; exopodite 1.7 times as long as the endopodite.

Remarks : The present new species is allied to *S. okinawaensis* already described in this paper but is separated from the latter in the following features : (1) absence of a lappet-like structure on the endopodite of male first pleopod,(2) shape of penes, (3) noduli lateralis on all the peraeonites are not remote, and (4) bare endite of maxilliped. This species is also allied to *Setaphora boninensis* described in this paper, but is separated from *boninensis* in having elliptical exopodite of male first pleopod and in having bare endite of maxilliped.

***Setaphora aokii* n. sp.**

(Jap. name : Aoki-mori-warajimushi, new)

Fig.81

Material examined : 6♂♂(1♂ holotype, 6.0 mm in body length and 5♂♂ paratypes, 3.8 ~6.5 mm in body length) and 3 ♀♀(1♀ allotype, 6.9 mm in body length and 2♀♀ paratypes, 3.3~4.2 mm in body length), forest of *Livistona chinensis* var. *boninensis*, east side of Mt. Mikazukiyama, Chichijima Island, Bonin Islands, coll. Jun-ichi Aoki and Hiroshi Harada, June 1, 1977. Type series is deposited as follows : holotype (TOYA-Cr-5497), allotype (TOYA-Cr-5498) and 4 paratypes (TOYA-Cr-5499~5502) at the Toyama Science Museum, 1 paratype (OMNH-Ar-3005) at the Osaka Museum of Natural History, 1 paratype (YCM-CI-919) at the Yokosuka City Museum and 1 paratype (NSMT-Cr-9227) at the National Science Museum, Tokyo.

Description : Body about 2.3 times as long as wide. Body colour white in alcohol. Eyes mediocre in size, each with 25~26 ocelli. All the peraeonal somites subequal in length. Posterolateral angles of peraeonal somites I-IV almost rectangular but those of peraeonal somites V-VII protruded posteriorly. All the pleonal somites also subequal in length. Pleotelson triangular. Noduli lateralis on peraeonite II is remote (Fig.81 M).

First antenna (Fig.81 B) 3-segmented ; first segment big and partly covered the second ; second segment rectangular ; terminal segment tapering towards the tip and with 3 pairs of 2 setae.

Second antenna (Fig.81 C), reaching the posterior part of the third peraeonal somite ; first segment small ; second and third segments rectangular and about twice as long as wide ; third segment 1.8 times as long as the third ; fifth segment 1.3 times as long as the fourth. Flagellum 3-segmented and somewhat longer than the fifth peduncular segment ; mutual length of each segment subequal.

Right mandible (Fig.81 D); composed of 3 teeth; lacinia mobilis not chitinized and with a very shallow concavity, 2 hairy bristles behind lacinia mobilis; processus molaris is represented only by its long hairy bristle.

Left mandible (Fig.81 E); pars incisiva 3-headed; lacinia mobilis 4-headed; 2 hairy bristles behind lacinia mobilis; processus molaris is represented only by its long hairy bristle.

First maxilla (Fig.81 F); outer lobe with 10 teeth at the tip; outer 4 teeth are simple and strong, especially outer most one is long and inner 6 are weaker and 2 of them are bifid.

Maxilliped (Fig.81 G) endite rectangular with a spine and only partly setose; palp rather short and with 3 groups of setae.

First peraeopod (Fig.81 H); basis oblong; ischium rectangular; merus rectangular with more than 10 setae on inner margin and 3～5 setae on outer distal margin; carpus rectangular with 4～6 setae; propodus relatively short with a series of many small setae on inner margin.

Seventh peraeopod (Fig.81 I); basis oblong but rather short; merus rectangular with a

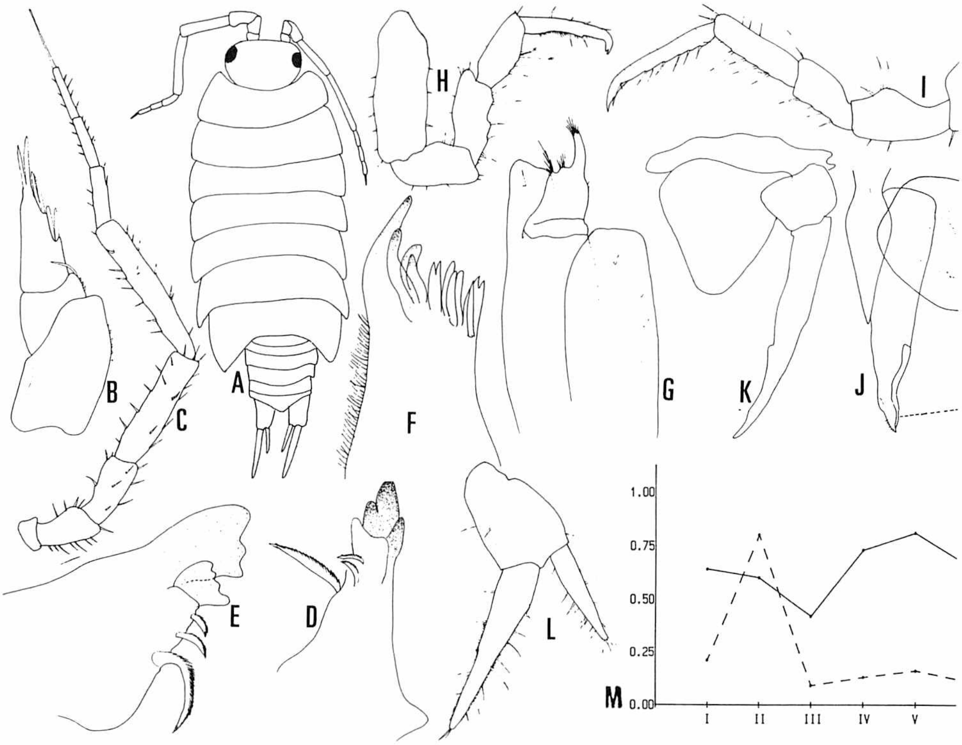

Fig.81. *Setaphora aokii* n. sp.
A. Dorsal view; B. First antenna; C. Second antenna; D. Right mandible E. Left mandible; F. Outer lobe of first maxilla G. Maxilliped; H. First peraeopod; I. Seventh peraeopod; J. Penes and male first pleopod; K. Male second pleopod; L. Uropod; M. Position of noduli lateralis, a full line shows b/c and a broken line shows d/c (All: Holotype male)

low sternal margin bearing 3 setae ; merus rectangular ; carpus rather long ; propodus long with 7～8 setae on inner margin.

Penes (Fig.81 J) fusiform.

Male first pleopod (Fig.81 J) ; exopodite square ; endopodite straight with 6 denticles on inner distal margin.

Male second pleopod (Fig.81 K) exopodite triangular ; endopodite rather short and with a small projection on the middle part of outer side.

Uropod (Fig.81 L) rather long ; basis rectangular ; endopodite narrow, 4～5 times as long as wide ; exopodite 1.8 times as long as the endopodite and 5 times as long as wide.

Remarks : This species is peculiar in its white colour in Japanese *Setaphora*. It is allied to *Setaphora boninensis* in many features, which was collected also from Bonin Islands and already described in this paper. The former is separated from the latter in the following features : (1) white body colour, (2) shape of penes, (3) shape of both lobes of male first pleopod and (4) shape of both lobes of male second pleopod.

***Setaphora ishigakiensis* n. sp.**

(Jap. name : Ishigaki-mori-warajimushi, new)

Figs.82 and 83

Material examined : 2♂♂(1♂ holotype, 5.2 mm in body length and 1♂ paratype, 5.5 mm in body length) and 2♀♀(1♀ allotype, 8.9 mm in body length and 1♀ paratype, 8.8 mm in body length), Arakawa, Ishigaki Island, Okinawa Pref., coll. Yasuhiko Shibata, Mar.10,1975, Mar.10,1975 ; 4♀♀ paratypes,8.0～10.0 mm in body length, Yonehara,Ishigaki Island, Okinawa Pref., coll. Yasuhoiko Shibata, Mar. 9,1975 ; 3♀♀ Kabira, Ishigaki Island, Okinawa Pref., coll. Hiroyuki Watanabe, Mar.1,1980 : 1♂, Mt. Banna-dake, Ishigaki Island, Okinawa Pref., coll. Akinori Kosaku, Apr. 28,1985. Type series is deposited as follows : holotype (TOYA-Cr-5339), allotype(TOYA-Cr-5340) and 1 paratype (TOYA-Cr-5345) at the Toyama Science Museum, 4 paratypes (OMNH-Ar-2970～2973) at the Osaka Museum of Natural History and 1 paratype (NSMT-Cr-9212) at the National Science Museum, Tokyo.

Description : Body big, reaching 8.9 mm. Body elongated, 2.3 times as long as wide. Body colour brown with many paler irregular patterns on dorsal surfaces of both peraeon and pleon and with a pair of small black patterns in the last peraeonal somite ; pleotelson with cross-shaped paler patterns. Eyes mediocre in size, each eye composed of 18 ocelli. Hindolateral corner of first to fourth peraeonal somites almost rectangular but those of fifth to seventh peraeonal somites protruded posteriorly ; each peraeonal somite almost equal in length. Pleon narrower than the peraeon. Each pleonite almost equal in length. Pleotelson triangular. Uropod rather long, as long as pleon. Noduli lateralis is not remarkable except on peraeonites Ⅰ, Ⅴ-Ⅶ (Fig.83 J).

First antenna (Fig.82 B) composed of 3 segments ; first segment rectangular ; second segment short ; third segment, tapering towards the tip, bears 2 aesthetascs at the tip.

Second antenna (Fig.82 C) long, reaching the third peraeonal somite. Peduncle 5-segmented ; first segment triangular; second segment rectangular with several setae on distal margin ; third segment as long as the second ; fourth segment about 2.2 times as long as the third ; fifth segment 1.2 times as long as the fourth ; mutual length of three flagellar segments is 4 : 3 : 3.

Right mandible (Fig.82 D) : pars incisiva composed of 4 teeth ; lacinia mobilis is not chitinized and 2-headed ; 2 hairy bristles behind lacinia mobilis ; processus molaris represented by a process bearing 2 hairy bristles.

Left mandible (Fig.82 E) pars incisiva composed of 3 low teeth ; lacinia mobilis wide and weakly 3-headed ; 3 hairy bristles behind lacinia mobilis ; processus molaris is as the right mandible.

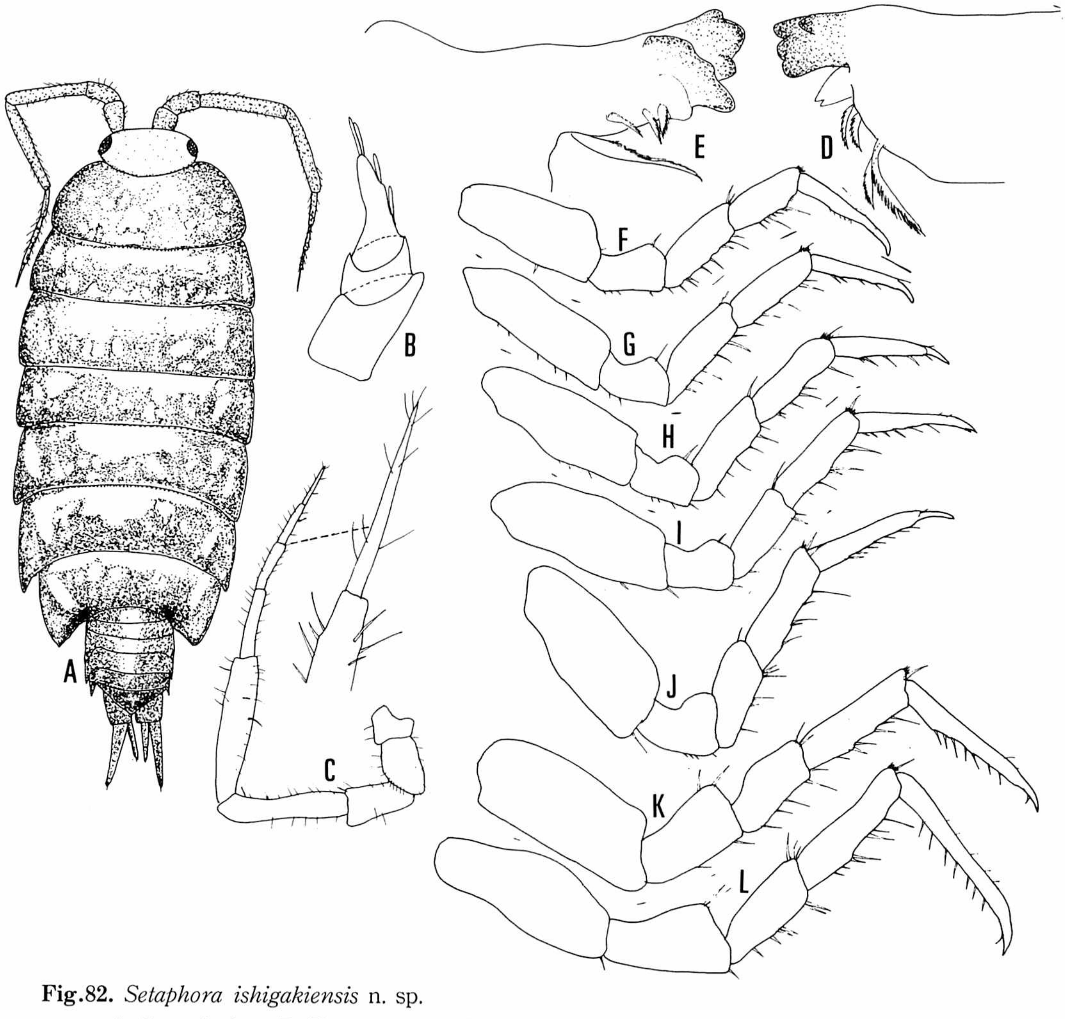

Fig.82. *Setaphora ishigakiensis* n. sp.
A. Dorsal view; B. First antenna; C. Second antenna. D. Right mandible; E. Left mandible ; F-L. First to seventh peraeopods (All: Holotype male).

First maxilla (Fig.83 A); outer lobe with swollen part and a series of many hair on the distal margin, bearing 10 teeth at the tip, inner 4 of which are bifid but 6th and 9th teeth are thin entire ; outer 4 entire and longer. Inner lobe with 2 hairy bristles.

Second maxilla normal.

Maxilliped (Fig.83 B) ; endite truncated and with sparse setae at the tip and with a tooth at the tip. Palp rather stout with 3 groups of setae.

All the peraeopods (Fig.82 F-L) similar in shape but the sixth and seventh peraeopods are a little longer than the preceding ones ; basis oblong and stout ; with 3～4 setae ; ischium short with a sternal margin ; merus and carpus rectangular with 5～8 setae on inner margin ; propodus long.

Penes narrow lanceolate but contracted at the basal part.

Male first pleopod (Fig.83 C) ; endopodite almost straight ; exopodite deltoid with a shallow concavity on outer margin.

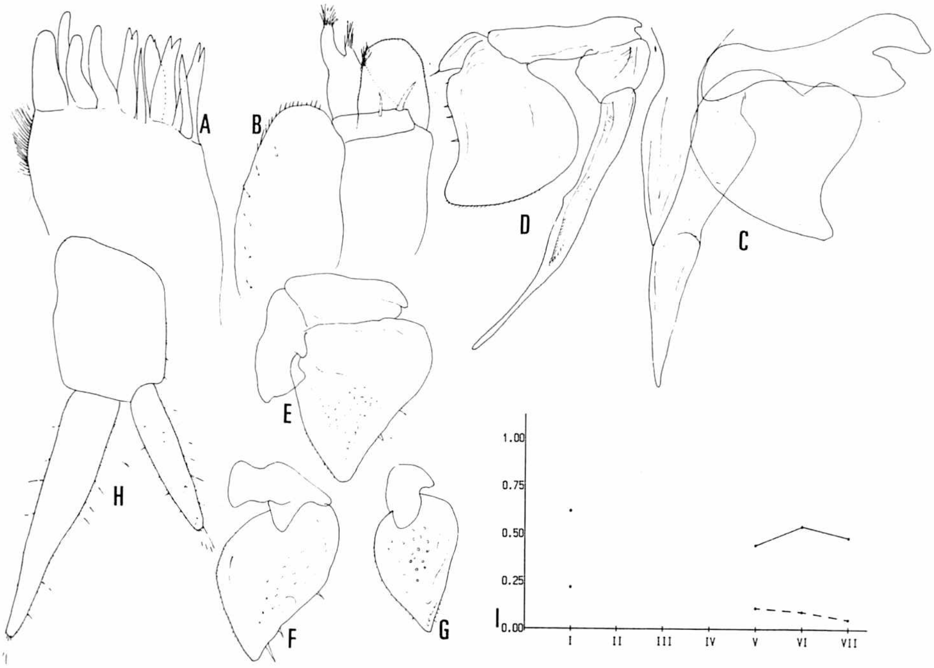

Fig.83. *Setaphora ishigakiensis* n. sp.
A. Outer lobe of first maxilla; B. Maxilliped; C. Penes and male first pleopod; D. Male second pleopod; E. Third pleopod; F. Fourth pleopod; G. Fifth pleopod; H. Uropod; I. Position of noduli lateralis, a full line shows b/c and a broken line shows d/c (All: Holotype male).

Male second pleopod (Fig.83 D); endopodite long with a minute projection at the outer side of the middle part; exopodite round.

Uropod (Fig.83 H); basis rectangular; endopodite narrow; exopodite long and almost twice as long as the endopodite.

Remarks : The present new species is easily distinguished from the preceding species by its bigger size but somewhat allied to *Setaphora murotoensis* described from Kochi and other southern Japan. But this species is separated from *murotensis* in the following features: (1) longer pleon and uropod, (2) absence of denticle on the endopodite of male first pleopod, (3) shape of penes, (4) shape of both lobes of male first pleopod, (5) shape of both lobes of male second pleopod, and (6) bigger body size.

***Setaphora iriomotensis* n. sp.**

(Jap. name: Iriomote-mori-warajimushi, new)

Figs.84 and 85

Material examined : 1♂(holotype,7.0 mm in body length) and 4♀♀(1♀ allotype, 11.2 mm in body length and 3♀♀ paratypes, 8.8∼10.3 mm in body length), Toyohara Beach, Iriomote Island, Okinawa Pref., coll. Satoru Tanaka, July 21, 1976; 3♀♀(paratypes, 8.5∼11.3 mm in body length), Iriomote-Island, Okinawa Pref., coll. Satoru Tanaka, July 17, 1976; 2 ♀♀, Funaura, Iriomote Island, Okinawa Pref., coll. Noboru Nunomura, June 22, 1975. Type series is deposited as follows: holotype (TOYA-Cr-5398), allotype (TOYA-Cr-5399) and 3 paratypes (TOYA-Cr-5400∼5402) at the Toyama Science Museum, 1 paratype (OMNH-Ar-2990) at the Osaka Museum of Natural History, 1 paratype (YCM-CI-901) at the Yokosuka City Museum, and 1 paratype (NSMT-Cr-9220) at the National Science Museum, Tokyo.

Description : Body rather broad, about 1.8 times as long as wide. Body colour blackish with paler irregular patterns on dorsal surface. Eyes mediocre in size, each eye composed of 20 ocelli. Each peraeonal somite subequal in length. The seventh peraeonal somite with sharply protruded posterolateral corner. Noduli lateralis is not remarkable except on the peraeonites I and V-VII (Fig. 85 J).

First antenna (Fig.85 A); first segment rectangular; second segment short and almost square; terminal segment lanceolate with 2 aesthetascs.

Second antenna(Fig.85 B); first segment small; second and third segments rectangular; fourth segment 2.8 times as long as the third; fifth segment 1.2 times as long as the fourth. Flagellum 3-segmented and somewhat longer than the fifth peduncular segment; mutual length of 3 segments is 7 : 5 : 5.

Right mandible (Fig.84 B); pars incisiva composed of 4 teeth; lacinia mobilis not chitinized and composed of a single tooth; a group of short hairs, 2 short hairy bristles and a long hairy bristle behind lacinia mobilis.

Left mandible (Fig.84 C); pars insiciva composed of 3 teeth; lacinia mobilis is also chitinized and single-toothed; hairy bristles like those of right mandible.

First maxilla (Fig.84 D & E) with 10 teeth at the tip ; outer 4 are single ; the second inner tooth is thin and entire ; other 5 teeth are bifid.

Second maxilla(Fig.84 F) entire and with many incisions on the lateral distal corner.

Maxilliped(Fig.84 G) ; endite round bearing 2 spines near the distal part ; palp reduced, only the first segment is separated from the other and bearing 3 bundles of setae ; epipodite lanceolate-oblong.

All the peraeopods (Fig. 85 C-F) normal in shape.

Penes(Fig.85 H) narrow lanceolate.

Male first pleopod(Fig.85 G&H) ; endopodite recurving outerwards from the middle part.

Male second pleopod(Fig.85 I) long, recurving outerwards and tapering towards the tip ; exopodite round but a wide concavity on the outer margin.

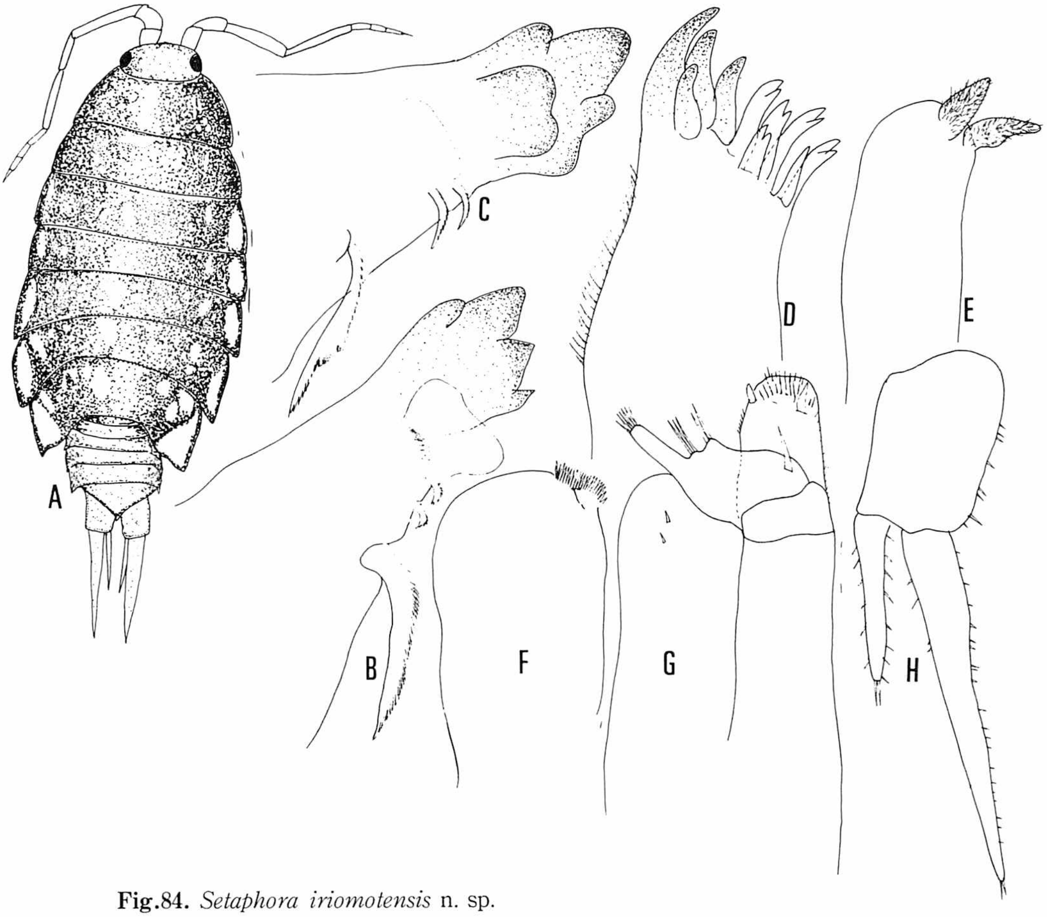

Fig.84. *Setaphora iriomotensis* n. sp.
A. Dorsal view; B. Right mandible; C. Left mandible; D. Outer lobe of first maxilla; E. Inner of the same; F. Second maxilla; G. Maxilliped; H. Uropod. (All: Holotype male).

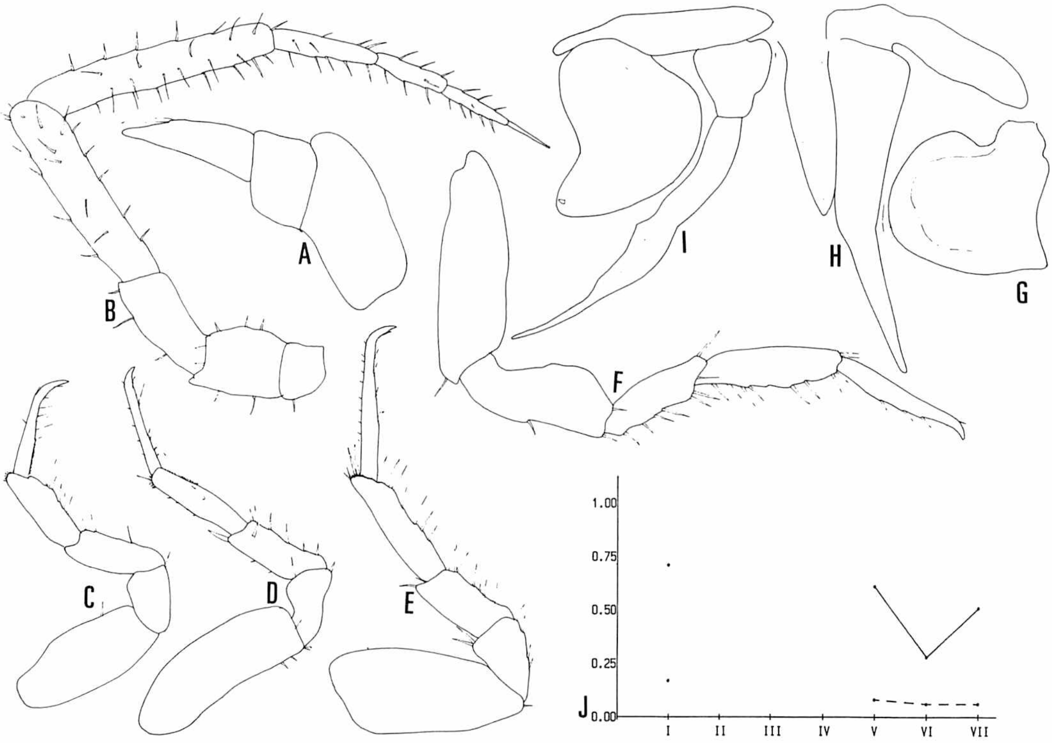

Fig.85. *Setaphora iriomotensis* n. sp.
A. First anrenna; B. Second antenna; C. First peraeopod; D. Second peraeopod; E. Sixth peraeopod; F. Seventh peraeopod; G. Exopodite of male first pleopod; H. Penes and endopodite of male first pleopod; I. Male second pleopod; J. Position of noduli lateralis, a full line shows b/c and a broken line shows d/c (All: Holotype male).

Uropod(Fig.84 H) ; endopodite narrow ; exopodite long and about twice as long as the endopod.

Remarks : The present new species is most closely allied to *Setaphora ishigakiensis* already described in the present paper, but this is separated from *ishigakiensis* in the following features : (1) wider posterior part of peraeon, (2) longer uropod, (3) elliptical exopodite of male first pleopod, and (4) inflexed endopodite of male first pleopod.

Setaphora yonakuniensis **n. sp.**

(Jap. name : Yonakuni-mori-warajimushi, new)

Figs.86 and 87

Material exaimed : 3♂♂(1♂ holotype, 5.9 mm in body length and 2♂♂, paratypes 6.1~6.6 mm in length) and 10 ♀♀(1♀ allotype, 9.0 mm in body length and 9♀♀, paratypes 6.6~9.6 mm in body length), Urabu-dake, Yokauni Island, Okinawa Pref., coll.Shingo Tanaka, Mar.

30,1982. Type series is deposited as follows : holotype (TOYA-Cr-5385), allotype (TOYA-Cr-5386) and 4 paratypes(TOYA-Cr-5387∼5390) at the Toyama Science Museum, 3 paratypes (OMNH-Ar-2985∼2987) at the Osaka Museum of Natural History, 2 paratypes (YCM-CI-897 ∼898) at the Yokosuka City Museum, and 2 paratypes (NSMT-Cr-9218) at the National Science Museum, Tokyo.

Decscription : Body rather broad, 2.2 times as long as wide. Body colour blackish with irregular patterns on dorsal surface. Cephalon egg-shaped. Eyes mediocre, each eye composed of 26 ocelli. Each peraeonal somite subeual in length. Each pleonal somite subequal in length. Pleotelson truncated. Uropod long. Noduli lateralis is not remarkable except peraeonites II-V(Fig. 87 K).

First antenna (Fig.86 B) 3-segmented and each segment subequal in length ; terminal segment bearing 5 aesthetascs at the tip.

Second antenna (Fig.86 C), reaching the third peraeonal somite ; mutual length of 5

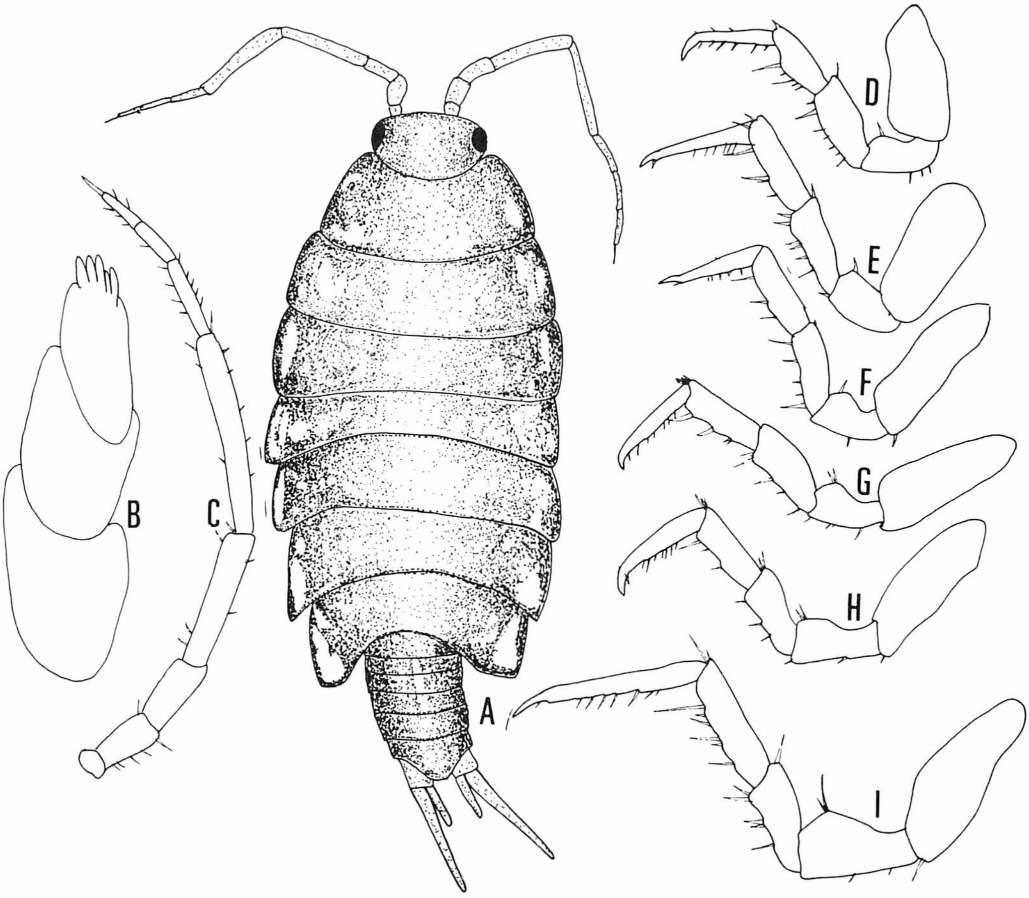

Fig.86. *Setaphora yonakuniensis* n. sp.
A. Dorsal view; B. First antenna; C. Second antenna; D-F. First to third peraeopods; G-I. Fifth to seventh peraeopods (All: Holotype male).

peduncular segments is 1 : 3 : 3 : 6 : 9. Flagellum 3-segmented and nearly as long as the fifth peduncular segment ; mutual length of 3 segments is 3 : 2 : 2.

Right mandible (Fig.87 A) ; pars incisiva composed of 3 teeth ; pars incisiva not chitinized and single-toothed ; 2 hairy bristles behind lacinia mobilis ; processus molaris small and only recognized by a long hairy bristle.

Left mandible(Fig.87 B) ; pars incisiva composed of 4 teeth ; lacinia mobilis weakly 3-headed ; hairy bristle and processus molaris are as the right mandible.

First maxilla(Fig.87 C) ; outer lobe with 10 teeth at the tip.

Second maxilla(Fig.86 D) normal.

Maxilliped (Fig.87 E) ; endite rectangular with a spine and many setae on the distal margin ; palp slender.

First to third peraeopods(Fig.86 D) ; basis oblong ; ischium, merus and carpus rectangular ; propodus long.

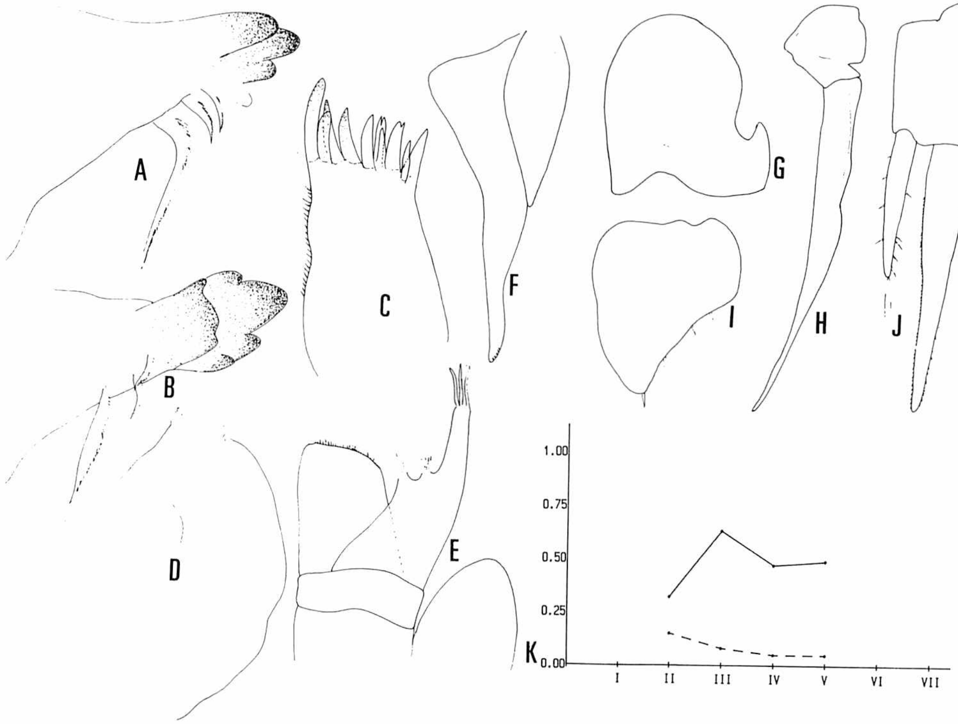

Fig.87. *Setaphora yonakuniensis* n. sp.
A.Right mandible; B. Left mandible; C. Outer lobe of first maxilla; D. Second maxilla; E. Maxilliped; F. Penes and endopodite of male first pleopod; G. Exopodite of the same; H. Stylus of male second pleopod; I. Exopodite of the same; J. Uropod; K. Position of noduli lateralis, a full line shows b/c and a broken line shows d/c (All: Holotype male).

Fourth to sixth peraeopods(Fig.86 G-H) ; basis elongated oblong ; ischium, merus and carpus rectangular ; propodus long.

Seventh peraeopod(Fig.86 I) ; basis oblong ; ischium elongated triangular with a sternal margin ; merus triangular ; carpus rather long ; propodus very long.

Penes (Fig.87 F) fusiform.

Male first peraeopod(Fig.87 F&G) ; exopodite hemi-elliptical and high with a shallow concavity on the inner margin ; endopodite straight with 5 small denticles on the distal inner margin.

Male second pleopod(Fig.87 H&I) ; exopodite triangular with 4 spines on inner margin ; endopodite long and almost strong.

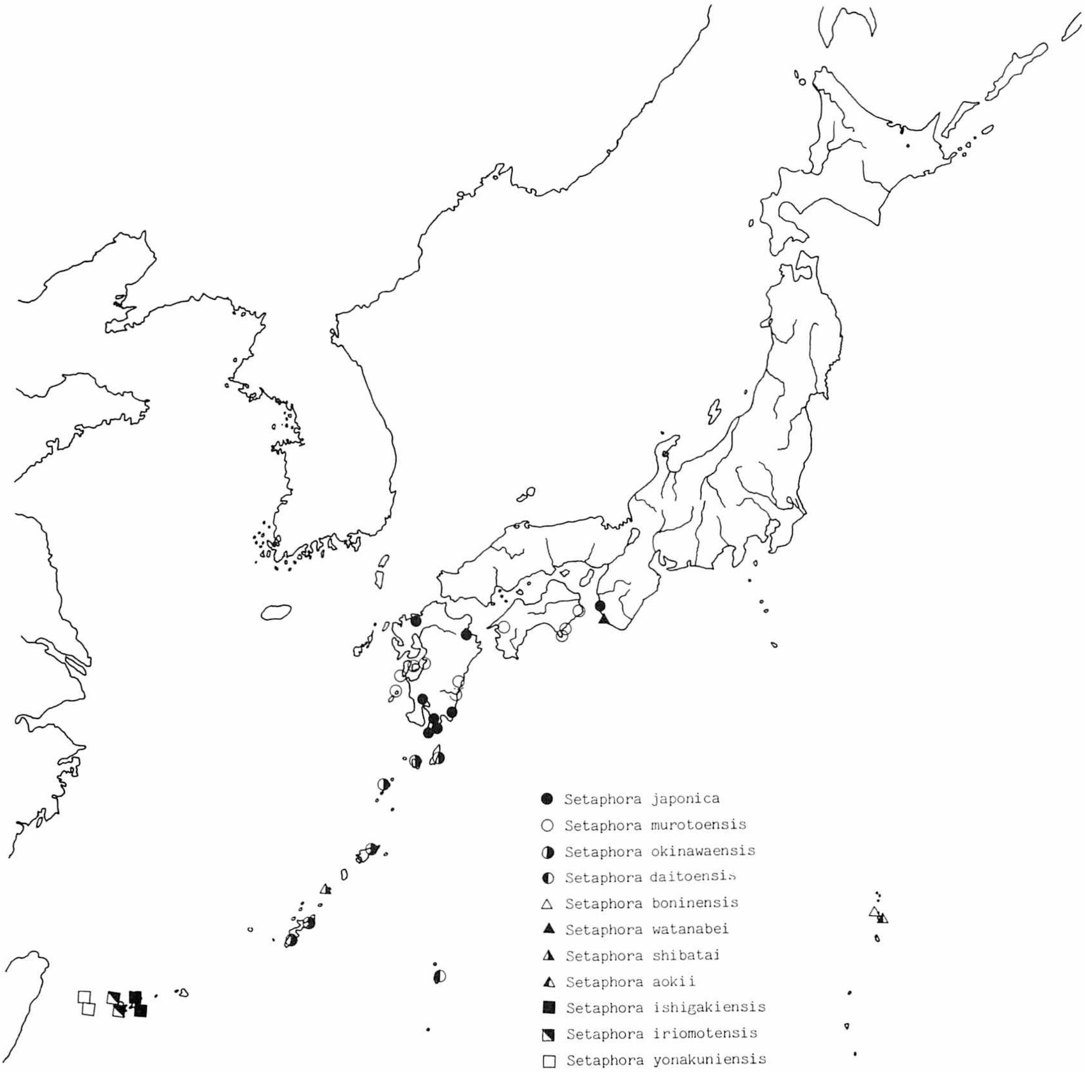
● Setaphora japonica
○ Setaphora murotoensis
◑ Setaphora okinawaensis
◐ Setaphora daitoensis
△ Setaphora boninensis
▲ Setaphora watanabei
▲ Setaphora shibatai
▲ Setaphora aokii
■ Setaphora ishigakiensis
◪ Setaphora iriomotensis
□ Setaphora yonakuniensis

Fig.88. Map showing the geographical distribution of the genus *Setaphora*.

Uropod(Fig.87 J); basis rectangular; endopodite long about 8 times as long as wide; exopodite 1.9 times as long as the endopodite.

Remarks: The present new species is most closely allied to *Setaphora iriomotensis* already described in this paper, but this species is separated from *iriomotensis* in the following featrures: (1) presence of small denticles on the endopodite of male first pleopod, (2) absence of projection on the stylus on male second pleopod, (3) truncated pleotelson, (4) shape of male seventh peraeopod, especially shorter ischium,and merus and long propodus, (5) much longer uropod.

Genus *Leptophiloscia* HEROLD, 1932

(Jap. name: Yase-warajimushi-zoku, new)

Hitherto 3 species have been described as valid from the Sunda Islands, Indonesia. First maxilla with 9(4+5) teeth at the tip of the outer lobe. Epimera of peraeonites I-III with round posterior corner. Pleon-epimera without protruded corner.

Leptophiloscia kiiensis n. sp.

(Jap. name: Kii-yase-warajimushi, new)

Fig.89

Material examined: 1♂ (holotype, 3.7 mm in body length) and 4 ♀♀(1♀ allotype, 4.2 mm in body length and 3 ♀♀ paratypes, 2.5 mm～4.2 mm in body length), Ichiki, Mihama-chô, Minamimuro-gun, Mie Prefecture. coll. Noboru Nunomura, July 4, 1985. Type series is deposited as follows: holotype(TOYA-Cr-5567), allotype(TOYA-Cr-5568) and 2 paratypes(TOYA-Cr-5569～5570) at the Toyama Science Museum; 1 paratype(OMNH-Ar-3012) at the Osaka Museum of Natural History.

Description: Body slender, about 2.9 times as long as broad. Each peraeonal somite is subequal in length. Eyes small, each eye composed of 8～9 ocelli. Noduli lateralis on peraeonite II somewhat remote (Fig.89 M).

First antenna(Fig.89 B) 3-segmented; first segment square; second segment rectangular; terminal segment rectangular with 2 short aesthetascs at the tip.

Second antenna(Fig.89 C), reaching the posterior part of the second pleopod; first segment very small; second and third segments rectangular; fourth segment twice as long as the third; fifth segment 1.6 times as long as the fourth. Flagellum a little longer than the fourth peduncular segment and 3-segmented; each segment is subequal in length.

Right mandible(Fig.89 D); pars incisiva 3-headed; lacinia mobilis not chitinized and 2-headed; a hairy bristle behind lacinia mobilis; processus molaris is represented by a group of hairy bristles.

Left mandible(Fig.89 E); pars incisiva 3-headed; lacinia mobilis 3-or 4-headed; 2 hairy bristles behind lacinia mobilis; processus molaris is represented by a group of hairy bristles.

First maxilla(Fig.89 F) outer lobe with 9 teeth at the tip, outer 4 teeth stronger and simple ; inner 5 teeth is weaker and 4 of which are cleft type.

Second maxilla(Fig.89 G) rectangular.

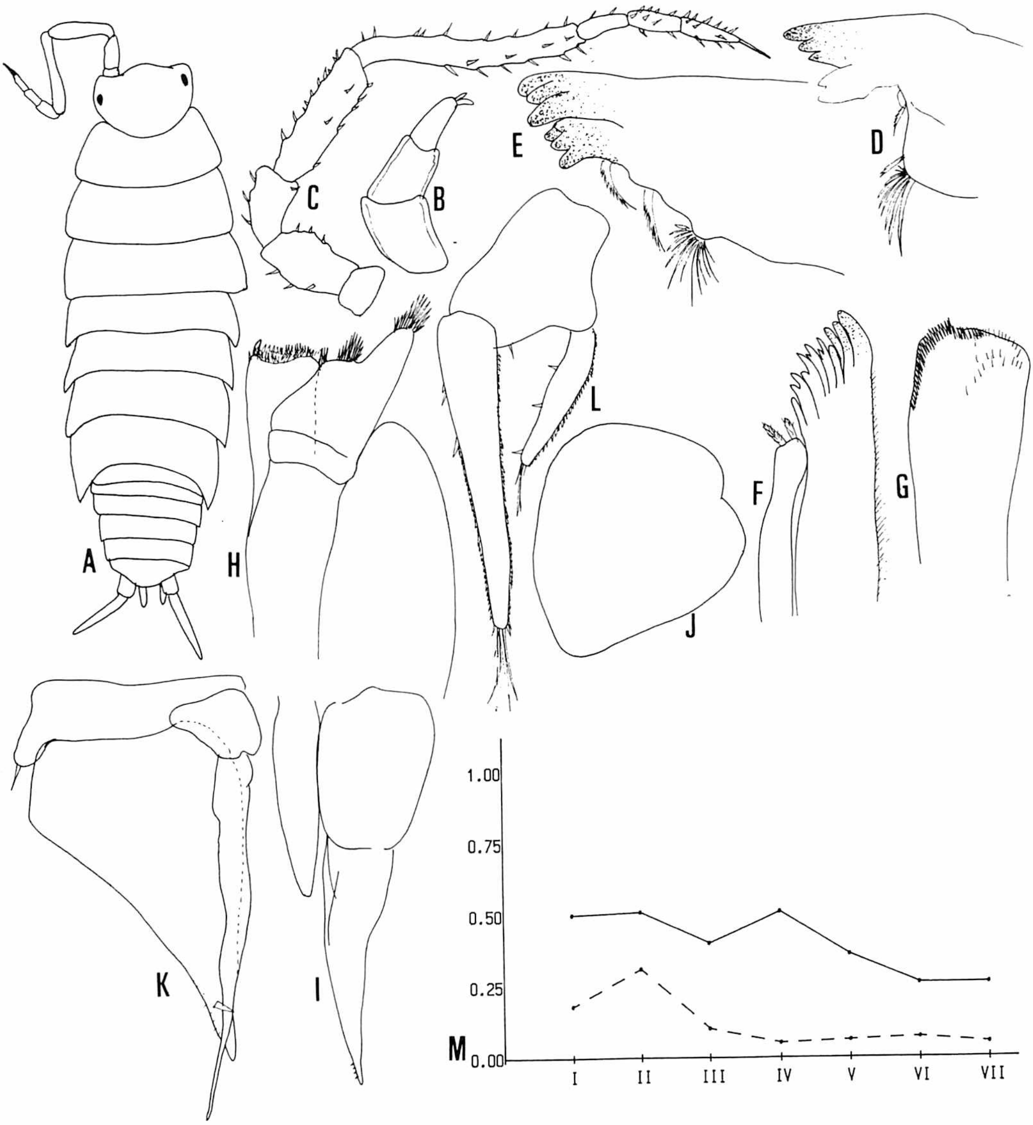

Fig.89. *Leptophiloscia kiiensis* n. sp.

A. Dorsal view; B.First antenna; C. Second antenna; D. Right mandible; E. Left mandible; F. First maxilla; G. Second maxilla; H. Maxilliped; I. Penes and endopodite of male first pleopod; J. Exopodite of the same; K. Male second pleopod; L. Uropod; M. Positioin of noduli lateralis, a full line shows b/c and broken line shows d/c (All: Holotype male).

Maxilliped(Fig.89 H) ; endite rectangular with many hair on distal margin and 1 or 2 stout spines on inner distal part ; 3 groups setae on inner margin of palp.

Penes(Fig.89 I) narrow-lanceolate.

Male first pleopod ; exopodite(Fig.89 J) round ; endopodite (Fig.89 I) almost straight and bears with 4～5 denticles on distal outer margin.

Male second pleopod (Fig 89 K) ; exopodite right-angled trianglar ; endopodite straight.

Remarks : The present new species is considered to belong in the genus *Leptophiloscia* in the shape of mouth part. And the present new species seems to be most closely allied to *L. javana* HEROLD described originally from Java, Indonesia, but the former is separated from the latter in the following features: (1) shape of exopodite of male second pleopod, (2) presence of denticles on the endopodite of male first pleopod, (3) more elongated second antenna, (4) position of simple tooth on the tip of first maxilla.

Genus *Pseudophiloscia* BUDDE-LUND, 1906

(Jap. name: Nisehime-warajimushi-zoku, new)

Body elongated. Pleon abruptly narrower than peraeon. First maxilla with 9 simple teeth on the tip of outer lobe.

Key to the species of the genus *Pseudophiloscia*

1 With eyes 2
1' Without eye 3
2 Each eye composed of 4 ocelli .... *P. donanensis* n. sp.
2' Each eye composed of 5 ocelli .... *P. okinawaensis* n. sp.
3 Penes rectangular. Male first pleopod without denticle 4
3' Penes fusiform. Male first pleopod with denticles .... *P. tsukamotoi* n. sp.
4 Second antenna rather short. Endopodites of male first and second pleopods rather short. Penes narrow .... *P. shimojanai* n. sp.
4' Second antenna long. Endopodites of male first and second pleopods long. Penes rather short .... *P.haradai* n. sp.

Pseudophiloscia donanensis n. sp.

(Jap. name: Donan-nisehime-warajimushi, new)

Fig.90

Material examined: 4♂♂(1♂ holotype, 4.0 mm in body length, and 3♂♂ paratypes, 3.7 ～4.2 mm in body length) and 9♀♀(1♀ allotype, 3.3 mm in body length and 8♀♀ paratypes, 3.3 ～4.2 mm in body length), Mt. Kubura-dake, 50 m in alt. Yonakuni Island, Okinawa Pref., coll. Shingo Tanaka, Mar. 30, 1982. Type series is deposited as follows: holotype (TOYA-Cr-5378), allotype (TOYA-Cr-5379) and 6 paratypes (TOYA-Cr-5380～5384) at the Toyama Science Museum; 2 paratypes (OMNH-Ar-2983～2984)at the Osaka Museum of Natural History; 2 paratypes (YCM-CI-895～896)at the Yokosuka City Museum, 2 paratypes (NSMT-

Cr-9217) at the National Science Museum, Tokyo.

Description: Body elongated, 3.0 times as long as wide. Body colour dull yellow in alcohol. Posterolateral angles of first to fourth peraeonal somites almost rectangular but

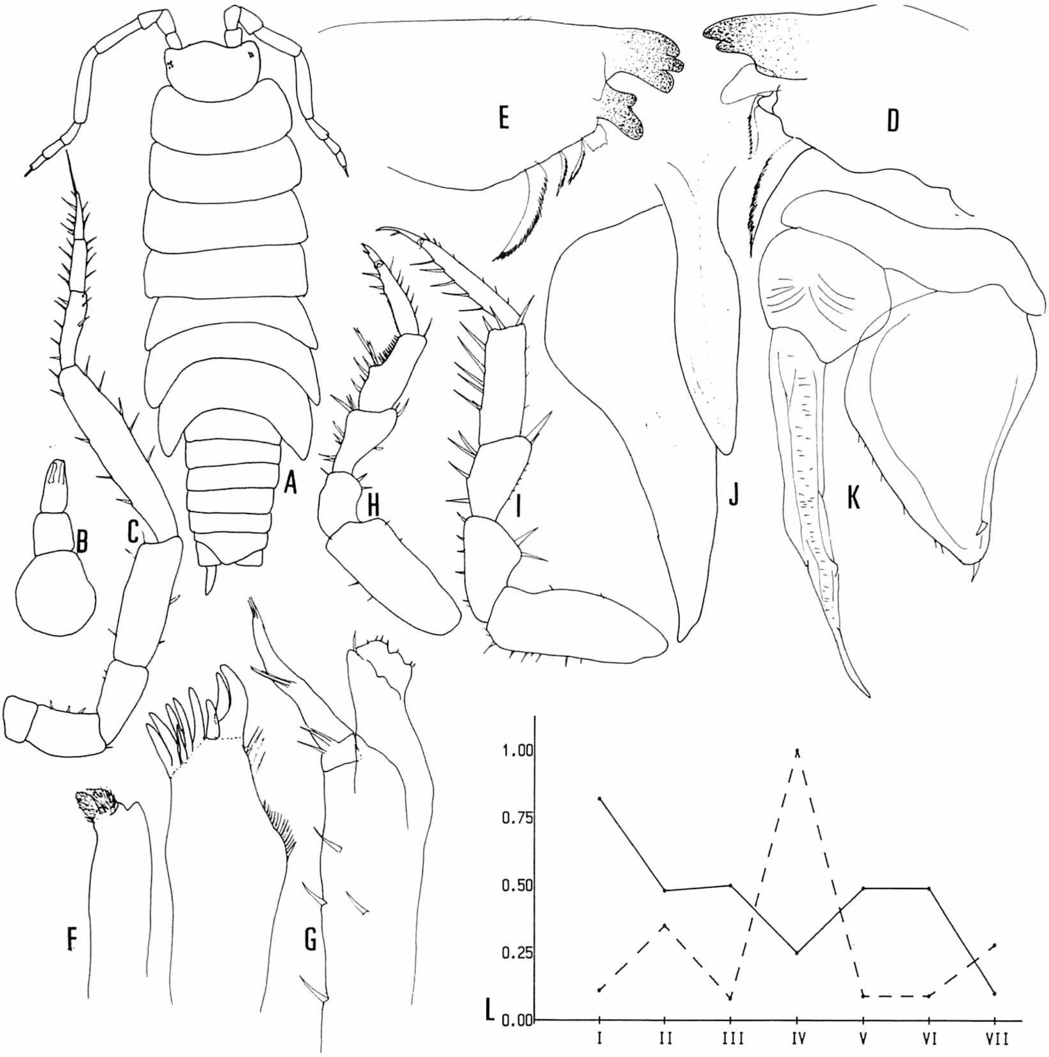

Fig.90. *Pseudophiloscia donanensis* n. sp.
A. Dorsal view; B. First antenna; C. Second antenna; D. Right mandible E. Left mandible; F. First maxilla; G. Maxilliped; H. First peraeopod; I. Seventh peraeopod; J. Penes and endopodite of male first pleopod; K. Male second pleopod; L. Position of noduli lateralis, a full line shows b/c and a broken line shows d/c (All: Holotype male).

those of fifth to seventh somites acutely protruded posteriorly. Mutual length of each peraeonal somite subequal. Eyes small, each eye composed of 4 ocelli. Cephalon rectangular with a low rostral projection and a truncate anterolateral angles. Noduli lateralis is remarkable; that of peraeonite IV is remote (Fig.90 L).

First antenna (Fig.90 B) 3-segmented; first segment big and round; second segment square; terminal segment rectangular with 2 aesthetascs.

Second antenna (Fig.90 C) reaching the posterior part of third peraeonal somite; first segment small; second and third segments rectangular; fourth segment is 1.6 times as long as ther third; fifth segment 1.5 times as long as the fourth. Flagellum 3-segmented; mutual length is 8:8:5.

Right mandible (Fig.90 D); pars incisiva 2-headed; lacinia mobilis not chitinized and consisting of a single tooth; a hairy bristle behind lacinia mobilis; processus molaris is represented by a long hairy bristle.

Left mandible (Fig.90 E); pars incisiva 3-headed; lacinia mobilis composed of 2 teeth; a thin lappet-like structure and 2 hairy bristles behind lacinia mobilis; processus molaris is as that of right mandible.

First maxilla (Fig.90 F); outer lobe with 9 simple setae; inner lobe with rather stout hairy bristles at the inner distal part.

Maxilliped (Fig.90 G); endite long with a bigger seta and and 7〜8 shorter setae; palp slender with 3 groups of setae; one of them is at the border of basal segment, the second is in the middle of the palp and the remaining one is at the tip of the palp.

First peraeopod (Fig.90 H); basis rectangular; ischium rectangular but shorter than basis; merus traingular with 9〜10 setae on inner and distal margins; carpus rectangular but with a remarkable projection in the middle part of inner margin, and bears 6〜7 setae and a series of fine setae on inner margin; propodus also with a series of fine setae on inner margin.

Seventh peraeopod (Fig.90 I); basis oblong; ischium triangular with 2 bigger setae on a sternal margin; merus triangular with 4 setae on inner margin and 2 stronger setae at the outer distal corner;carpus rectangular with 10 strong setae on inner and distal margins; propodus long.

Penes (Fig.90 J); fusiform. Endopodite of male first pleopod (Fig.90 J) elongated triangular.

Male second pleopod (Fig.90 K); stylus long and slightly recurved outerwards.

Uropod rather short.

Remarks: The present new species somewhat resembles *Pseudophiloscia sundaica* reported from Sumatra, but the former is different from the latter apparently in the following features: (1) white body, (2) the less numerous ocelli of eyes, and (3) shape of exopodite of male first pleopod.

Pseudophiloscia okinawaensis **n. sp.**

(Jap. name: Okinawa-nisehime-warajimushi, new)

Fig.91

Material examined: 1 ♂ (holotype, 4.7 mm in body length) and 1 ♀ (allotype, 4.5 mm in body length), Cave called Makîgama, Kamiezu, Gushikawa-City, Okinawa Island, Okinawa Pref. coll. Matsuei Shimojana, Aug. 29, 1970. Holotype (TOYA-Cr-5313) and allotype (TOYA-Cr-5314) are deposited at the Toyama Science Museum.

Description: Body elongated, 2.9 times as long as wide. Body surface rather smooth. Body colour white in alcohol. Posterolateral angles of first to fourth peraeonal somites almost rectangular, while those of fifth to seventh peraeonal somites protruded posteriorly. Anterior margin of cephalon only slightly protruded. Eyes small, each eye composed of 5 ocelli. Noduli lateralis is remarkable; that of peraeonite II is remote (Fig.91 L).

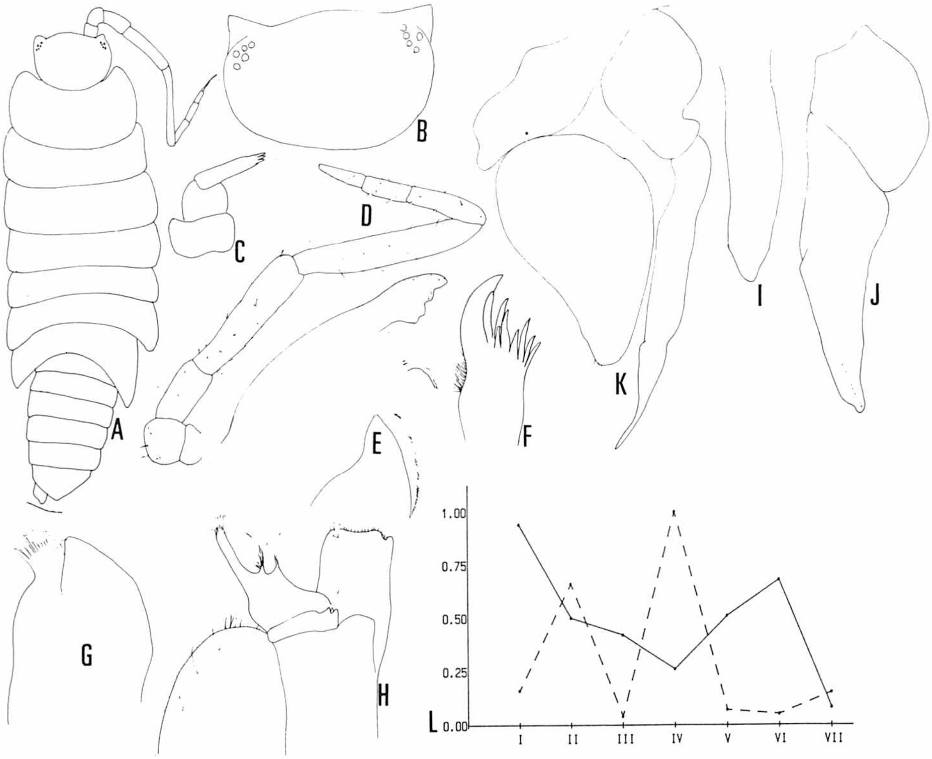

Fig.91. *Pseudophiloecia okinawaensis* n. sp.
A. Dorsal view; B. Cephalon; C. First antenna; E. Right mandible; F. Outer lobe of first maxilla; G. Second maxilla; H. Maxilliped; I. Penes; J. Endopodite of male first pleopod; K. Male second pleopod; L. Position of noduli lateralis, a full line shows b/c and a broken line shows d/c (All: Holotype male).

First antenna (Fig.91 C) small; first segment short; second segment short; terminal segment rectangular with a small 3 aesthetascs at the tip.

Second antenna (Fig.91 D) rather long, reaching the anterior part of fourth peraeonal somite; first and second segment short; mutual length of 3rd to 5th segments are 5:22:27. Flagellum 3-segmented, mutual length is 5:3:3; terminal segment bearing a long seta. Each segment with some remarkable setae on the whole surfece.

Right mandible (Fig.91 E); pars incisiva composed of a single tooth; lacinia mobilis not chitinized and single-toothed; a hairy seta behind lacinia mobilis; processus molaris is represented by a small process bearing a long hairy bristle.

First maxilla (Fig.91 F); outer lobe with 9 entire teeth; terminal one recurved and bigger than the others.

Second maxilla (Fig.91 G); rather broad.

Maxilliped (Fig.91 H);palp slender with 3 groups of setae;endite rectangular with 2 teeth.

Penes (Fig.91 I) rectangular with a shallow dent at the tip.

Male first pleopod (Fig.91 J); endopodite rather broad and tapering towards the tip; with 11~12 minute spines near the apical part.

Male second pleopod (Fig.91 K); endopodite long and straight: bearing small triangular projection on the outer margin; exopodite rather long with 2 spines on the apical part.

Remarks: The present new species seems to be most closely allied to *Pseudophiloscia donanensis* already described in this paper, but the former is separated from the latter in the following featurs: (1) presence of a row of small denticles on the endopodite of male first pleopod, (2) shorter palp and endite of maxilliped, (3) longer terminal segment of the first antenna, (4) bigger teeth of the outermost part of the outer lobe of first maxilla, (5) more numerous ocelli of eyes and (6) remote noduli lateralis on peraeonite II.

***Pseudophiloscia shimojanai* n. sp.**

(Jap. name: Shimojana-nisehime-warajimushi, new)

Fig.92

Material examined: 1♂(holotype, 3.6 mm in body length), Cave called Âsakigama, Yoron-chô, Yoron Island, Ooshima-gun, Kagoshima Pref., coll. Matsuei Shimojana, Aug. 6, 1972. 1♀(allotype, 4.0 mm in body length), Cave called Ichimigama, Miyagi-jima, Yonagusuku-son, Okinawa Pref., coll. Matsuei Shimojana, Oct. 6, 1972. Holotype (TOYA-Cr-5311) and allotype (TOYA-Cr-5312) are deposited at the Toyama Science Museum.

Description: Body elongated, about 3.2 times as long as wide. Body colour white in alcohol. Hindolateral margins of the first to fourth peraeonal somites almost rectangular, but those of the fifth to seventh peraeopods acute and protruded posteriorly. Eye lacking. Noduli lateralis on peraeonites II and IV are remote (Fig.92 M).

First antenna (Fig.92 B) small; first segment short; second segment almost square; terminal segment narrow and without aesthetasc.

Second antenna (Fig.92 C); rather stout; first segment small; second segment egg-shaped; third segment rectangular; fourth segment rectangular and about twice as long as the third; fifth segment again twice as long as the fourth. Flagellum rather short, about four-fifths length of the fifth peduncular segment.

Right mandible (Fig.92 D); pars incisiva composed of 4 chitinized teeth; lacinia mobilis not chitinized and composed of a single tooth; a hairy bristle behind lacinia mobilis; processus molaris is represented by a very small process with a hairy bristle.

Left mandible (Fig.92 E); pars incisiva chitinized and composed of a single tooth; a hairy

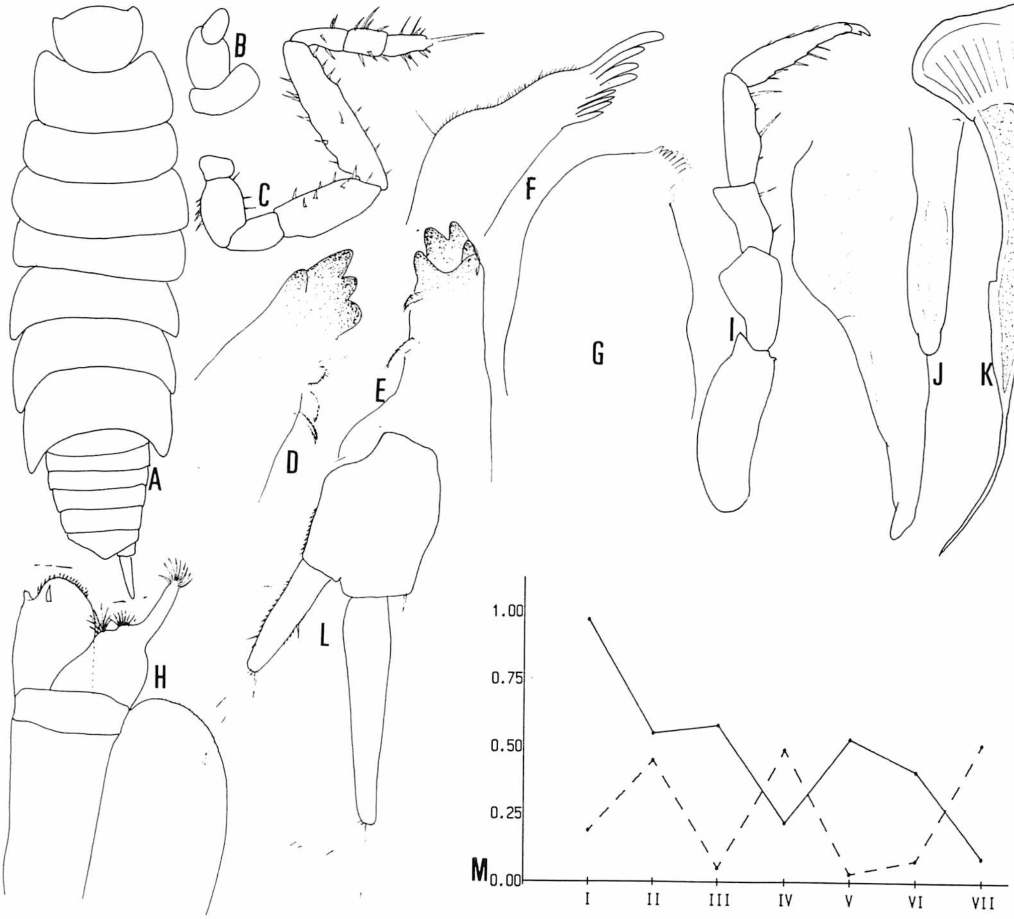

Fig.92. *Pseudophiloscia shimojamai* n. sp.
A. Dorsal view; B. First antenna; C. Second antenna; D. Right mandible; E. Left mandible; F. Outer lobe of first maxilla; G. Second maxilla; H. Maxilliped; I. Seventh peraeopod; J. Penes and endopodite of male first pleopod; K. Stylus of male second pleopod; L. Uropopd; M. Position of noduli lateralis, a full line shows b/c and broken line shows d/c (All: holotype male).

bristle behind lacinia mobilis ; processus molaris is as the right mandible.

First maxilla (Fig.92 F);outer lobe with 9 teeth at the tip, all of them entire and the outermost one is remarkably bigger than the others.

Second maxilla (Fig.92 G); with 8～9 incisions at the tip.

Maxilliped (Fig.92 H); apical part of endite semicircular with 2 bigger spines and many smaller spines at the tip; palp narrow with 3 groups of hairy bristles.

First peraeopod; basis oblong; ischium rectangular with 2 setae; merus as long as ischium with 6～7 setae on inner margin; carpus also as long as ischium but with a protuberence on inner margin and 7～8 setae on inner margin; propodus slender.

Seventh peraeopod (Fig.92 I); basis oblong; ischium and merus rather short; carpus rectangular; propodus narrow with 4～5 big spines.

Penes (Fig.92 J) narrow.

Male first pleopod (Fig.92 J); exopodite almost triangular; endopodite, tapering toward the tip and only slightly recurving outerwards,has no spines.

Male second pleopod (Fig.92 K); endopodite long, recurving outerwards in distal part and bears a small projection on outer side in the middle part on outer margin.

Uropod (Fig.92 L); basis stout; endopodite short with small spines and 3 terminal setae; exopodite long, about twice longer than the endopodite.

Remarks: The present new species is closely allied to *Pseudophiloscia okinawaensis* already described in this paper, but the former is separated from the latter in the following features: (1) lack of eye, (2) shorter both antennae, (3) lack of denticle on the endopodite of the male first pleopod, (4) longer stylus of male second pleopod.

***Pseudophiloscia haradai* n. sp.**

(Jap. name: Harada-nisehime-warajimushi, new)

Fig.93

Material examined: 1♂(holotype, 3.1 mm in body length), 2♀♀(1♀ allotype, 5.1 mm in body length and 1♀ paratype,5.4 mm in body length), forest of *Bischofia javanica*, 260 m in altitude. Kuwanoki-yama, Haha-jima, Bonin Islands, Tokyo Pref., coll. Jun-ichi Aoki and Hiroshi Harada, June 24 1977; 1♀(paratype, 3.7 mm in body length), forest of *Schima mertensiana*, 140 m in alt. Haha-jima Bonin Islands, Tokyo Pref., coll. Jun-ichi Aoki and Hiroshi Harada, June 18, 1977; 1♀(paratype, 4.0 mm in body length) forest of *Terminalia catappa*, 50 m in alt. coll. Jun-ichi Aoki and Hiroshi Harada, July 29, 1977. Type series is deposited as follows: holotype (TOYA-Cr-5516), allotype (TOYA-Cr-5517) and 3 paratypes (TOYA-Cr-5518～5520) at the Toyama Science Museum.

Description: Body elongated, about 2.9 times as long as wide. Body colour almost white in alcohol. Lateral angles of first to third peraeonal somites almost rectangular, while those of fourth to seventh paeraeonal somites protruded posteriorly. Eye lacking. Noduli lateralis as Fig.93N.

First antenna (Fig.93 B) small and 3-segmented ; first segment square; second segment rather small; terminal segment rectangular with 3 aesthetascs at the tip.

Second antenna (Fig.93 C), reaching the anterior part of the third peraeonal somite; first segment small; second and third segments rectangular, fourth segment 1.5 times as long as the third; fifth segment 1.4 times as long as the fourth; flagellum 3-segmented and each segment equal in length.

Right mandible (Fig.93 D); pars incisiva 3-headed; lacinia mobilis not chitinized and single-toothed; 2 hairy bristles behind lacinia mobilis; processus molaris is represented by a long hairy bristle.

Left mandible (Fig.93 E) as that of right mandible other than lacinia mobilis is chitinized.

First maxilla (Fig.93 F); outer lobe with 9 simple setae at the tip, the outermost one is long and recurved innerwards; inner lobe narrow and bears two stout plumose setae at the

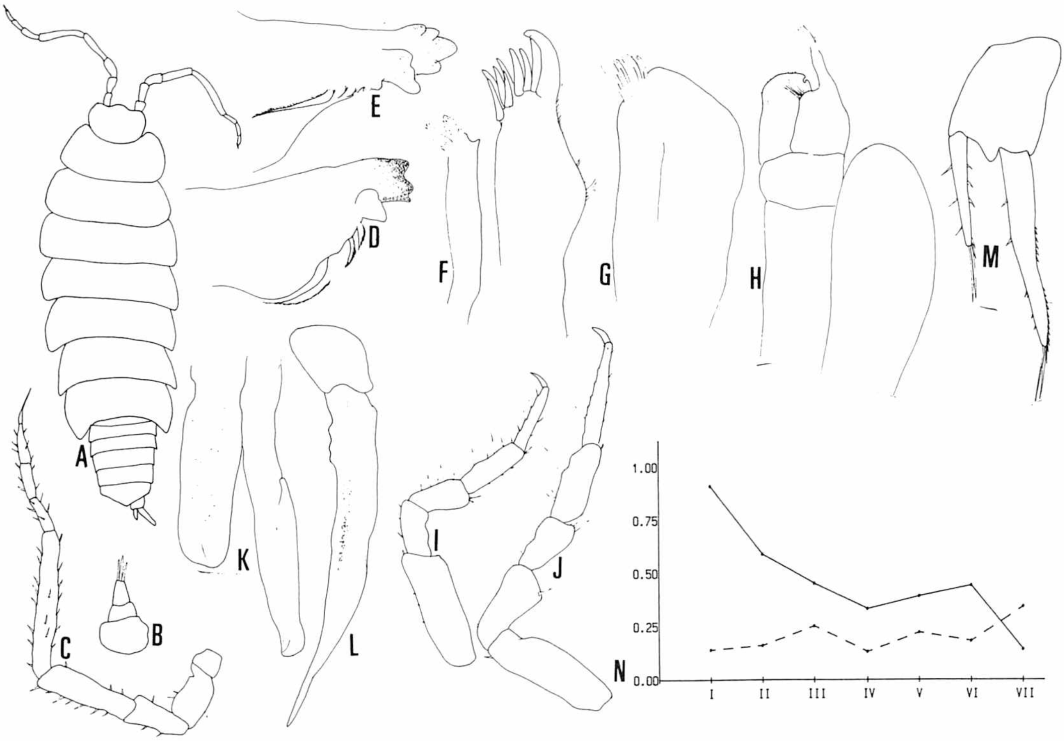

Fig.93. *Pseudophiloscia haradai* n. sp.
A. Dorsal view; B. First antenna; C. Second antenna; D. Right mandible; E. Left mandible; F. First maxilla; G. Second maxilla; H. Maxilliped; I. First peraeopod; J. Seventh peraeopod; K. Penes and endopodite of male first pleopod; L. Stylus of male second pleopod; M. Uropod.N. Position of noduli lateralis, a full line shows b/c and a broken line shows d/c (A, C-E, H-J: Allotype female, B, F-G, K-N: Holotype male).

tip and the outer most part of terminal margin concave.

Second maxilla (Fig.93 G) normal.

Maxilliped (Fig.93 H) endite rectangular with many small setae at the terminal margin; palp with broad first segment and the remaining part tapering towards the tip and bears 2 groups of setae.

All the peraeopods similar in shape (Fig.93 I-J); basis oblong; ischium rectangular with a few of setae on inner margin and a bigger seta at outer distal corner; merus with 6～7 setae on inner margina and 2 long setae at outer distal margin; carpus a little longer than merus and with 6～8 setae on inner margin; propodus slender with 4～6 setae on inner margin.

Penes (Fig.93 K) rather stout and club-shaped.

Male first pleopod (Fig.93 K); endopodite almost straight and without spines.

Male second pleopod (Fig.93 L) rather short and tapering towards the tip.

Uropod (Fig.93 M); basis almost square; endopodite narrow and as long as basis; exopodite long, about 1.7 times as long as the endopodite.

Remarks: The present new species seems to be most closely allied to *Pseudophiloscia shimojanai* already described in this paper, but it is separated from the latter in the following features: (1) shorter and stouter endopodite of male first pleopod, (2) longer second antenna.

***Pseudophiloscia tsukamotoi* n. sp.**

(Jap. name: Tsukamoto-nisehime-warajimushi, new)

Fig.94

Material examiend: 5♂♂(1♂ holotype, 2.8 mm in body length and 4♂♂ paratypes, 3.0～3.1 mm in body length) and 7♀♀(1♀ allotype, 4.5 mm in body length, 6♀♀ paratypes, 2.5～4.6 mm in body length), Hirose, Tôwa-mura, Hata-gun, Kochi Pref., coll. Jirô Tsukamoto, May 8, 1982. Type series is deposited as follows: holotype (TOYA-Cr-5372), allotype (TOYA-Cr-5373) and 3 paratypes (TOYA-Cr-5374～5376) at the Toyama Science Museum, 2 paratypes (OMNH-Ar-2981～2982) at the Osaka Museum of Natural History, 2 paratypes (YCM-CI-893～894) at the Yokosuka City Museum and 2 paratypes (NSMT-Cr-9216) at the National Science Museum, Tokyo.

Description: Body elongated, 3.3 times as long as wide. Body surface rather smooth. Body colour almost white in alcohol. Posterolateral angles of first to fourth peraeonal somites almost rectangular, while those of fifth to seventh peraeonal somites protruded posteriorly. Anterior margin of cephalon almost straight. Eye absent. Noduli lateralis is as Fig.94 L.

First antenna (Fig.94 B) small; first segment stout; second segment square; terminal segment with 2 aesthetascs at the tip.

Second antenna (Fig.94 C) reaching the second peraeonal somites; first segment short without seta; second and third segments rectangular; fourth segment 1.7 times as long as the third and with many setae; fifth segment 2.7 times as long as the fourth. Flagellum 3-

segmented and as long as the fifth peduncular segment, terminal segment with a long seta at the tip.

Right mandible; pars incisiva stout with 3~4 shallow teeth; lacinia mobilis composed of a single thin tooth; 2 hairy bristles behind lacinia mobilis; processus molaris is represented by a long hairy bristle.

Left mandible (Fig.94 D); pars incisiva 3-headed; lacinia mobilis composed of a single tooth; 2 hairy bristles behind lacinia mobilis; processus molaris is represenred only by a long hairy bristle.

First maxilla (Fig.94 E); outer lobe with 9 simple setae at the tip; inner lobe slender with 2 hairy bristles at the tip.

Second maxilla (Fig.94 F) rather small with 6~7 small comb-like structures at distal end.

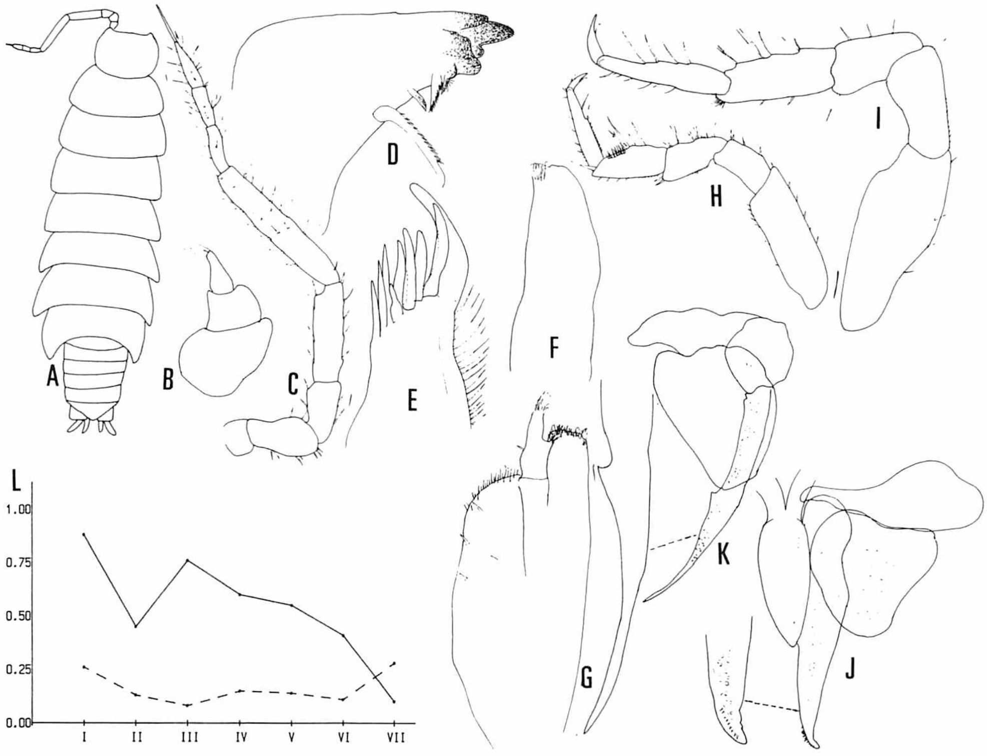

Fig.94. *Pseudophiloscia tsukamotoi* n. sp.

A. Dorsal view; B. First antenna; C. Second antenna; D. Left mandible; E. Outer lobe of first maxilla; F. Second maxilla; G. Maxilliped; H. First peraeopod; I. Seventh peraeopod; J. Penes and male first pleopod; K. Male second pleopod; L. Position of noduli lateralis, a full line shows b/c and broken line shows d/c (All: Holotype male).

Maxilliped (Fig.94 G); endite rectangular with 3 stout teeth on distal margin; palp very narrow with 2 groups of setae.

First peraeopod (Fig.94 H); basis oblong; ischium rectangular; merus rectangular with 10 setae on inner margin; carpus rectangular and with 4 long setae on inner margin and a series of setae near the outer margin; propodus long.

Seventh peraeopod (Fig.94 I); basis oblong; ischium rectangular; merus as long as ischium and with a long seta at the outer distal corner; carpus rectangular with 8 long setae on inner margin and a group of short setae on outer distal corner; propodus long with 4 long teeth on inner margin.

Penes (Fig.94 J) lanceolate.

Male first pleopod (Fig.94 J);exopodite roundly triangular; endopodite almost straight but its apical part recurved outerwards and tapers towards the tip and bears about 10 small spines.

Male second pleopod (Fig.94 K); exopodite almost elliptical; endopodite long and recurved outerwards slightly and with a small but acute projection and concavity in the middle part of outer side.

Uropod; basis stout; exopodite short with 3 setae on inner margin; endopodite a little longer than the endopodite.

Remarks: The present new species is most closely allied to *Pseudophiloscia shimojanai* already described in this paper, but the former is separated from the latter in the following features: (1) shape of endopodite of male first pleopod, especially presence of small denticles on its distal margin; (2) shape of penes, (3) shorter uropod.

Genus *Papuaphiloscia* VANDEL, 1970

(Jap. name: Minami-warajimushi-zoku, new)

This genus belongs to the *Chaetophilosia* group. Processus molaris of mandible is simple; outer lobe of first maxilla with simple teeth; maxilliped with simple hairy bristles; neopleuron is connected to pleonite; the noduli lateralis IV is remote.

Key to the Japanese species of the Genus *Papuaphiloscia*

1 Eye absent ··*P. insulana* VANDEL
1' Eyes present ··*P.* sp.

Papuaphiloscia insulana VANDEL, 1970

(Jap. name: Erabu-minami-warajimushi, new)

Papuaphiloscia insulana VANDEL, 1970

Figs.95 and 96

Material examined: 1♂ deposited at the National Science Museum, Tokyo. Cave called Yaja-gô at Shinjô, China-chô, Okinoerabu-Island, Ooshima-gun, Kagoshima Pref., coll. Shun-Ichi, Uêno and Yoshinobu Morimoto, Aug. 5, 1958.

Description: Body rather elongated, about 4 times as long as wide. Body colour white in alcohol. Cephalon almost as long as wide. Eye absent, rostral projection as equally protruded as lateral angles. Noduli lateralis is as Fig.96.

First antenna (Fig.95 B) small and composed of 3 segments; first segment round; second segment almost square; terminal segment rectangular with 2 setae at the tip.

Second antenna (Fig.95 C) moderate in length; first to third peduncular segments almost square; fourth and fifth segments rectangular with many setae on lateral margins; 3 flagellar segments subequal in length.

First maxilla; outer lobe with 8 teeth, 4 of wich are bigger than the others.

Maxilliped (Fig.95 D); endite rectangular; palp slender.

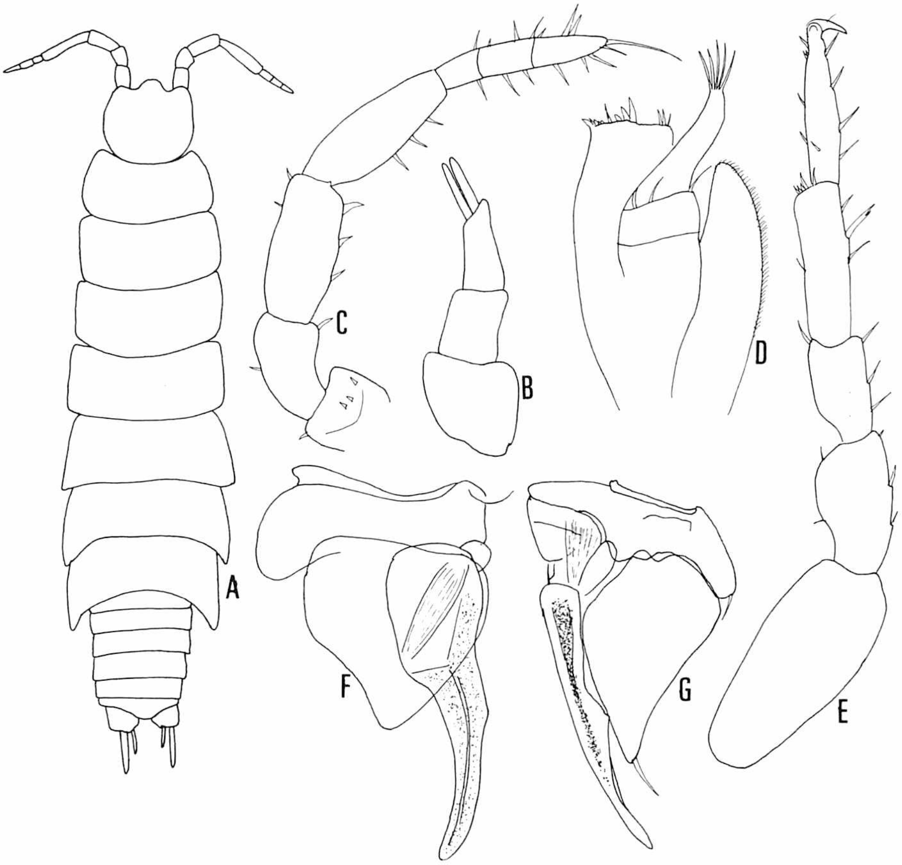

Fig.95. *Papuaphiloscia insulana* VANDEL, 1970.
A. Dorsal view; B. First antenna; C. Second antenna; D. Maxilliped; E. Seventh peraeopod; F. Male first pleopod; G. Male second pleopod (All: Holotype).

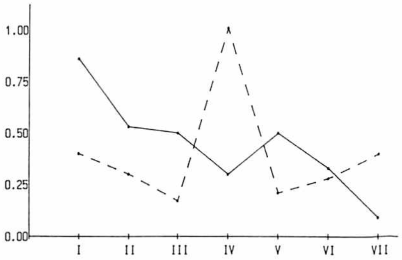

Fig.96. Position of noduli lateralis of *Papuaphiloscia insulana* VANDEL, 1970, a full line shows b/c and a broken line shows d/c.

First to fourth peraeopods short; basis oblong; ischium square; merus almost square; carpus rectangular with 4 setae on outer margin; propodus oblong with 2 setae on inner margin; dactylus short.

Fifth to seventh peraeopods (Fig.95 E) long; basis oblong; ischium rectangular; merus triangular with 4～5 setae; carpus rectangular with 3～5 setae on inner margin and a group of small setae at outer distal corner; propodus oblong with 4 long setae and 4～5 spines on outer margin; dactylus long.

Male first pleopod (Fig.95 F); endopodite is robust and terminates in short; exopodite most triangular and with a shallow dent on outer margin.

Male second pleopod (Fig.95 G); endopodite terminates a pointed end and with a low projection at middle part of outer margin; exopodite triangular with a relatively long seta at the distal end.

Pleotelson triangular and round.

Remarks: So far as I am aware, 7 species of the genus are known as valid: they are *insulana* VANDEL, *bougainvillei* VANDEL, *minima* VANDEL, *alubula* VANDEL, *anophthalma* VANDEL, *parkeri* VANDEL and *rennelli* VANDEL. But 6 species except *insulana* have been known only from Melanesian area.

***Papuaphiloscia* sp.**

Fig.97

Material examined: 1♀, 4.2 mm in body length, virgin forest of *Livistona subglobosa*, Minami-daito jima Island, Okinawa Pref. coll. Jun-ichi Aoki Oct. 8, 1978. This specimen is deposited at the Toyama Science Museum (TOYA-Cr-5377).

Description: Body oblong, 2.7 times as long as wide. Body white in alcohol. Mutual length of peraeonal somite subequal in length. Noduli lateralis is as Fig.97 E.

Eyes mediocre in length, each composed of 16 ocelli.

First antenna (Fig.97 B) 3-segmented; first segment short; second segment almost square; terminal segment tapering towards the tip and with 3 groups of 2 aesthetacs.

Left mandible (Fig.97 C); pars incisiva 4-headed; lacinia mobilis 3-headed; 2 hairy bristles behind lacinia mobilis; processus molaris is represented by a hairy bristle.

First maxilla (Fig.97 D) with 8 entire teeth at the tip.

Remarks: As this specimen was incomplete female, species name could not be determined, although it is apparently distinguished from *Papuaphiloscia insulana* VANDEL, collected from Okinoerabu Island, Amami Islands. But the former is separated from the latter in the following features: (1) with eyes and (2) noduli lateralis on peraeonite IV is not remote.

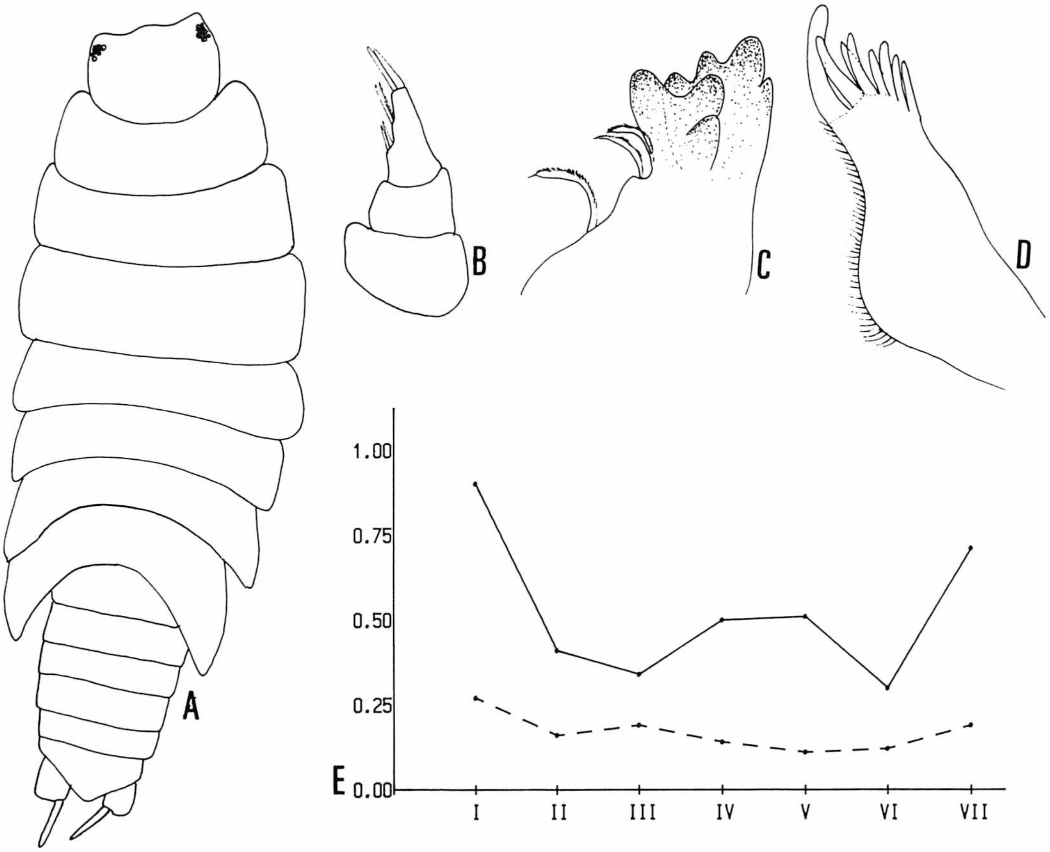

Fig.97. *Papuaphiloscia* sp.
A. Dorsal view; B. First antenna; C. Left mandible; D. Outer lobe of first maxilla; E. Position of noduli lateralis, a full line shows b/c and a broken line shows d/c (All: Female specimen).

Family Oniscidae Latreille, 1806

(Jap. name: Hon-warajimushi-ka, new)

Body rather stout. Pleon not abruptly narrower than pereon. Without tracheal system. Flagellum of second antenna composed of 3 segments.

Genus *Exalloniscus* Stebbing, 1911

(Jap. name: Okame-warajimushi-zoku)

Flagellum of second antenna 3-segmented. Cephalon with pronounced lateral corner.

Epimera of pleonal somites III-V well developed. Exopodite of any pleopods without pseudotracheae.

Exalloniscus cortii ARCANGELLI, 1927

(Jap. name: Okame-warajimushi)

Fig.98

Exalloniscus cortii ARCANGELI, 1927 ; ———— NUNOMURA, 1980.

Material examined: 4 exs, Kourakuen Garden, Bunkyou-ku, Tokyo Pref., coll. Akinori Kosaku, Nov. 4, 1985; 1♂2♀♀, Honmoku, Naka-ku, Yokohama City, Kanagawa Pref. coll. Noboru Nunomura, Nov.26,1983; 2♂♂, Hikatae, Toyama City, Toyama Pref., coll, Noboru Nunomura, May 23, 1979; 2♂♂, Taroumaru, Toyama City, Toyama Pref., 6 exs, Ikarabe, Takaoka City, Toyama Pref., coll. Noboru Nunomura, Nov. 24, 1980; 2 exs, Ogi, Uchiura-chô, Suzu-gun, Ishikawa Pref., coll. Noboru Nunomura, June 12, 1979. 2♀♀, Neko-dani near Kimio-tôge, Hashimoto City, Wakayama Pref., coll. Akihiko Ichikawa, June 26, 1983; 1♂, Amami, Kawachi-nagano City, Osaka Pref., coll. Akihiko Ichikawa, Sep. 20, 1982; 1♀,

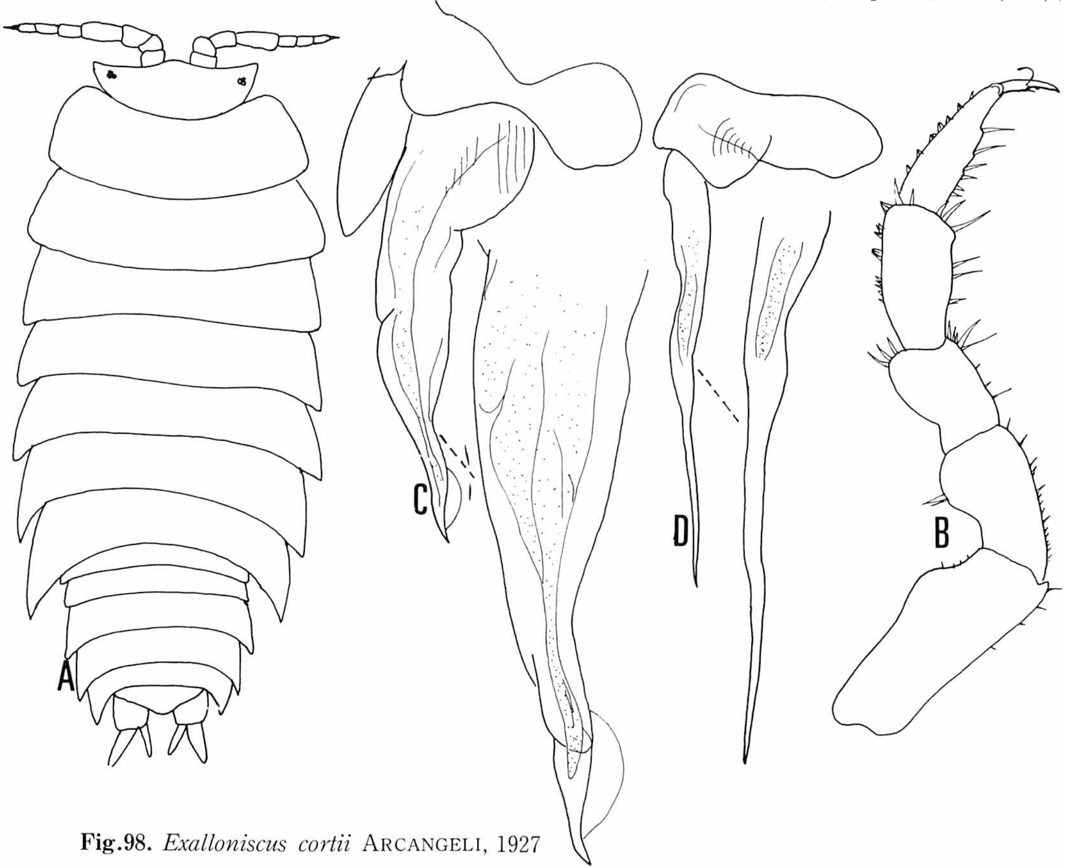

Fig.98. *Exalloniscus cortii* ARCANGELI, 1927
A. Dorsal view; B. Seventh peraeopod; C. Penes and male first pleopod; D. Stylus of male second pleopod(All: Male specimens from Toyama).

Minoo-Park, Minoo City, Osaka Pref. coll. Akihiko Ichikawa, Apr. 20, 1983; 1♀, together with an ant, *Lasius niger* LINNE, Nagai-Park, Higashi-sumiyoshi-ku, Osaka City, Osaka Pref., coll, Akihiko Ichikawa, June, 25, 1983; 4♂♂ 1♀, Hiraoka, Higashi-osaka City, Osaka Pref., coll. Akihiko Ichikawa, Nov. 23, 1982.

Description: Body somewhat oblong and oval about 3 times as long as broad. Body surface rather smooth. Colour pale brown in alcohol.

First antenna rather long and 3-segmented; terminal segment beaing about 6 aesthetascs at outermost part. Second antenna about two-sevenths as long as the body; first peduncular segment small; second segment oblong; third segment small and triangular; fourth and fifth segments oblong and longest; each flagellar segment similar in length; terminal segment with a long and several small spines.

Cepahalon peculiar in shape; medial process wide but short; lateral lobe short but sharply pointed. Eyes small but the number of ocelli not discerned. Epimera of peraeonal somites IV-VII well developed. Mandible rather slender with 3 strong teeth. First maxilla with 10 recurved teeth at the tip of outer lobe. Second maxilla stout; medial lobe carries a series of about 6～10 small pararel ribs. Maxilliped stout and rectangular.

Male seventh peraeopod (Fig.98 B); basis rectangular; ischium and merus with rounded distal part on outer distal margin; carpus rectangular; propodus rather robust; dactylus with a sensory seta.

Penes (Fig.98 C) club- shaped.

Endopodite of male first pleopod (Fig.98 C) long with a reniform lappet-like structure near the tip.

Male second pleopod (Fig.98 D); stylus long and almost straight.

Uropod short. Pleotelson triangular.

Remarks: The present species seems to be rather common and to have a wide distribution, though it is inconspicuous to the people, because of the small size. It is sometimes found from the nest of some kinds of ants.

Oniscidae sp.

Fig.99

Material examined: 2♀♀(2.5～3.3 mm in body length), among the wrack in high tidal zone, Tomoezaki, Tomioka, Reihoku-chô, Amakusa-gun, Kumamoto Pref., coll. Taiji Kikuchi, June 23, 1963. These specimens were deposited at the Toyama Science Museum (TOYA-Cr-5444～5445).

Description: Body lanceolate, 2.4 times as long as broad. Colour white in alcohol. Eyes small, composed of 8～9 ocelli. Rostral projection low; lateral angles small. All the peraeonal somites almost equal in length; pleon not abruptly narrower than the peraeon. Pleotelson triangular. Noduli lateralis is as Fig.99 O.

First antenna (Fig.99 B); first segment square; second segment terminal segment rectangular with 4 aesthetascs.

Second antenna (Fig.99 C) reaching posterior part of the first peraeonal somite; first segment small; second and third segments almost square; fourth segment rectangular; fifth segment nearly twice as long as the fourth. Flagellum nearly as long as the fifth peduncular segment and composed of 3 segments; terminal segment a little longer than the second.

Right mandible (Fig.99 E); pars incisiva composed of 3 teeth; lacinia mobilis not chitin-

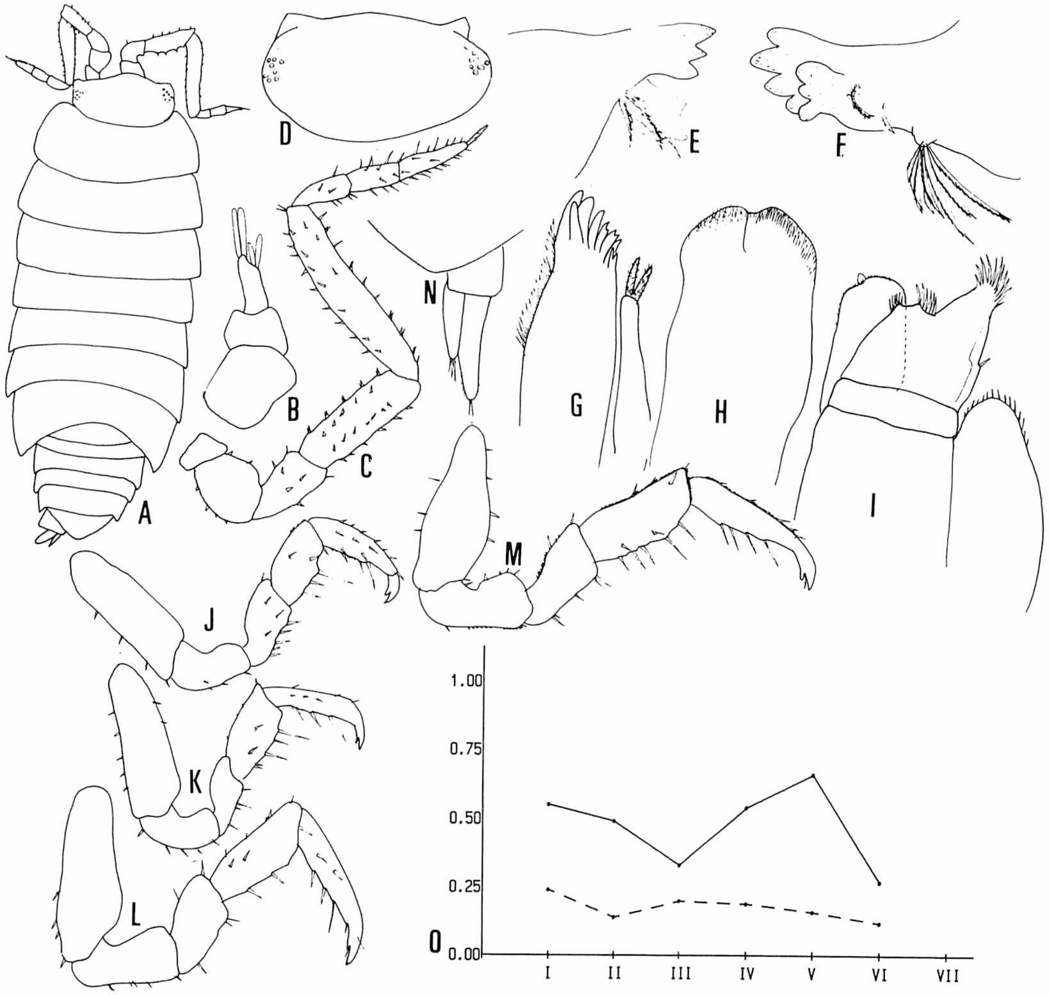

Fig.99. Oniscidae sp.

A. Dorsal view; B. First antenna; C. Second antenna; D. Cephalon; E. Right mandible; F. Left mandible; G. First antnenna; H. Second maxilla; I. Maxilliped; J. First peraeopods; K-M. Fifth to seventh peraeopods; N. Posterior part of pleotelson and uropod; O. Position of noduli lateralis, a full line shows b/c and a broken line shows d/c (All: Female specimen).

ized and single-toothed; processus molaris is represented by only a minute knob bearing 7 ~8 hairy bristles.

Left mandible (Fig.99 F); pars incisiva composed of 4 teeth; lacinia mobilis 3-toothed; a hairy bristles behind lacinia mobilis; processus molaris is represented by a small knob bearing 8~9 hairy bristles.

First maxilla (Fig.99 G); outer lobe with 8 teeth at the tip, outer 4 and the innermost ones of which are simple type and the remaining 3 are bifid type.

Second maxilla (Fig.99 H) bilobed and whose tip is covered with many setae.

Maxilliped (Fig.99 I) endite rectangular and bearing a stout spine and many short hairs

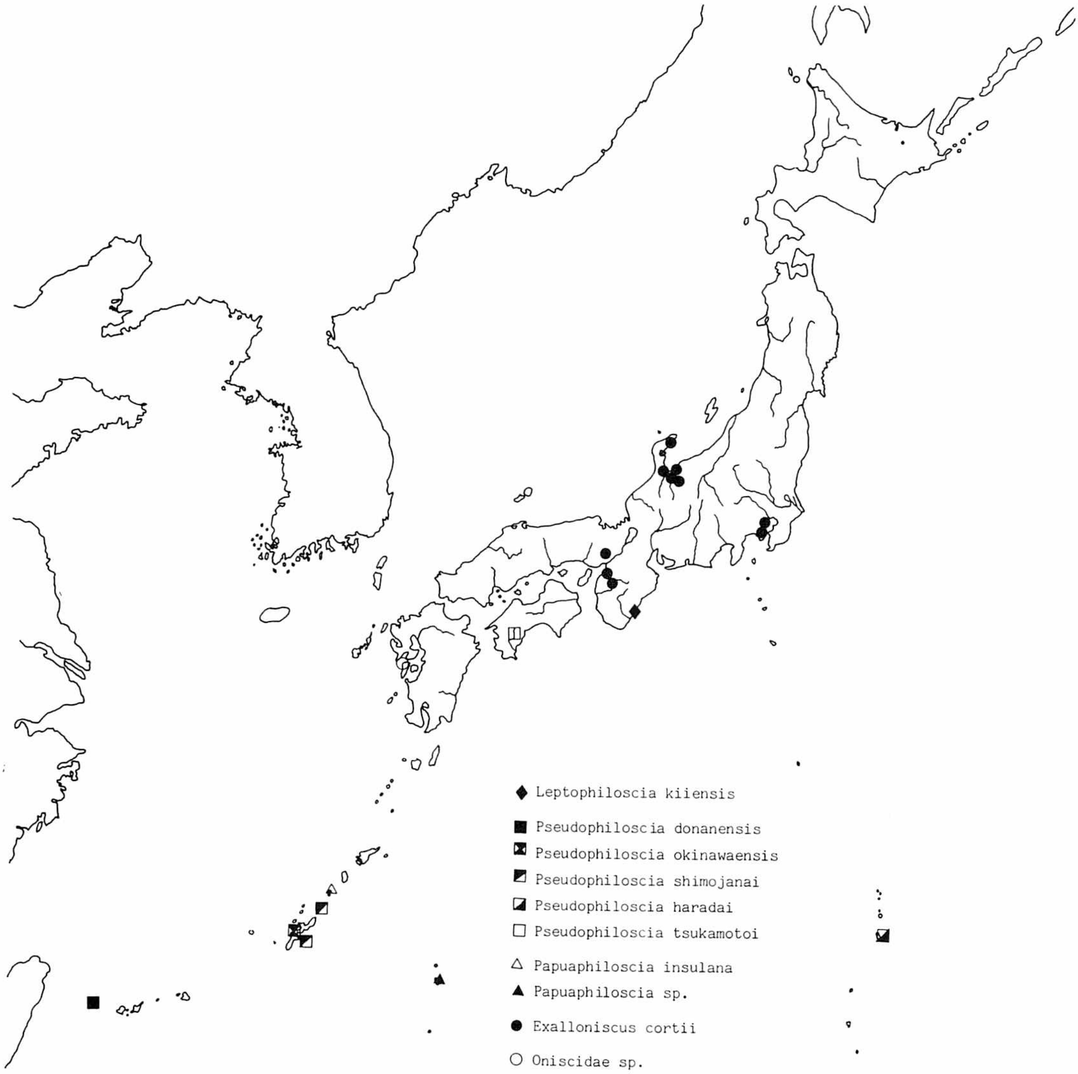
◆ Leptophiloscia kiiensis
■ Pseudophiloscia donanensis
☒ Pseudophiloscia okinawaensis
◩ Pseudophiloscia shimojanai
◪ Pseudophiloscia haradai
□ Pseudophiloscia tsukamotoi
△ Papuaphiloscia insulana
▲ Papuaphiloscia sp.
● Exalloniscus cortii
○ Oniscidae sp.

Fig.100. Map showing the geographical distribution of the genera *Leptophiloscia*, *Pseudophiloscia*, *Papuaphiloscia*, *Exalloniscus* and Oniscidae sp.

along the distal margin.

All the peraeopods are similar in shape (Fig.99 J-M) but the seventh are longer than the other ones; basis rectangular; ischium also rectangular but shorter and narrower than basis; merus triangular; carpus rectangular; propodus rather short.

Uropod (Fig.99 N) rather short; endopodite lanceolate; exopodite 1.5 times as long as endopodite.

Remarks: As only 3 female specimens were available to the examination and I could not ascertain any appropriate generic appointment, the determination of these specimens must be left to future study.

Corrections

In the previous paper, part II. Taxonomy of the Families Scyphacidae, some serious mistakes were slipped in:

p. 1, 1, 9 for "ハマワラジムシ" read "ウミベワラジムシ"

p. 13, 1, 2 next "in body length", add "5♀♀(1♀ allotype, 5.3 mm in body length and 4♀♀, 3.9～5.1 mm in body length)"

p. 27, 1, 1 for "first" read "second"

p. 30, 1, 7 for "first peraeopod" read "pleopod"

I wish to apoloigize for these mistakes.